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# Computer PLAYER

January 1996

Volume 5 Number 1

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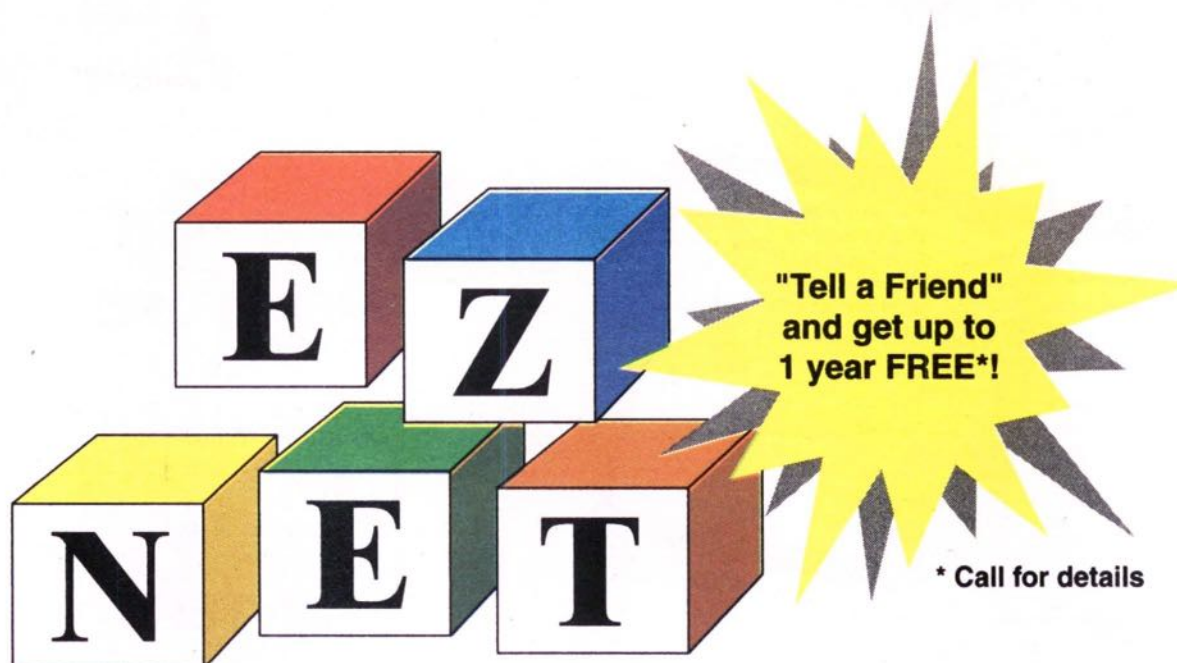
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#### Dataquest Lowers Win95 Forecast

Dataquest researchers have reduced their 1995 forecast for Microsoft Corp.'s Windows 95 by 3.6 million shipments, from 30 million to 26.4 million.

In a statement from San Jose, California, Dataquest says that of the estimated 26.4 million shipments of Windows 95 from Microsoft this year, about 10 million will remain in the distribution channel at year-end.

"Therefore," adds the statement, "Dataquest estimates that 16.4 million copies of Windows 95 will be in consumers' hands at the end of 1995. The original forecast placed 20 million copies of Microsoft's operating system in the hands of consumers."

Director/principal analyst Paul Cabbage cited two factors for the lower forecast:

- ♦ "It is an artifact of forecasting a product at a time when it was not yet in the market and when the final shipment date had not yet been set.
- ♦ "And Dataquest is taking a more conservative view of the holiday season at this time."

#### Softbank to Boost China's Net

Japan's Softbank Corp. is teaming with Ji Tong Communications Co. Ltd. in the Chinese computer-based telecommunications Internet services sector.

The French Agence France-Press International News Service reports from Tokyo that the Japanese software wholesaler is set to invest \$10 million in equipment for the new services and also as payment to the Chinese company.

Softbank says U.S.-based Unitech Telecom Inc. also will participate in the tie-up. AFP notes Softbank recently said it will buy a 30 percent stake in Unitech.

#### Nintendo, Netscape Eye Venture

Nintendo Co. Ltd.'s U.S. unit is talking with Web browser publisher Netscape Communications Corp. about possibly developing Internet connections for the video game maker's Ultra 64 advanced gaming system.

Chairman Howard Lincoln of Nintendo's U.S. unit is quoted by the Reuter News Service as saying an Internet deal involving the two companies could be announced by early 1996.

However, Lincoln called "unfounded" the rumors that such a deal already has been reached.

#### Matsushita Offers Net-Bound Fax

A new communication device that enables a fax-equipped telephone to work as terminal to the Internet has been developed by Japan's Matsushita Electric Industrial Co. Ltd.

Reporting from Tokyo, the Associated Press says, "By simply using push-buttons on a fax machine, or telephone, a user can quickly reach sites on the World Wide Web." A Matsushita spokesman said the system is faster than using a PC to reach the Web.

AP says Matsushita will market the system for use by governments, for systems such as public information and disaster prevention information.

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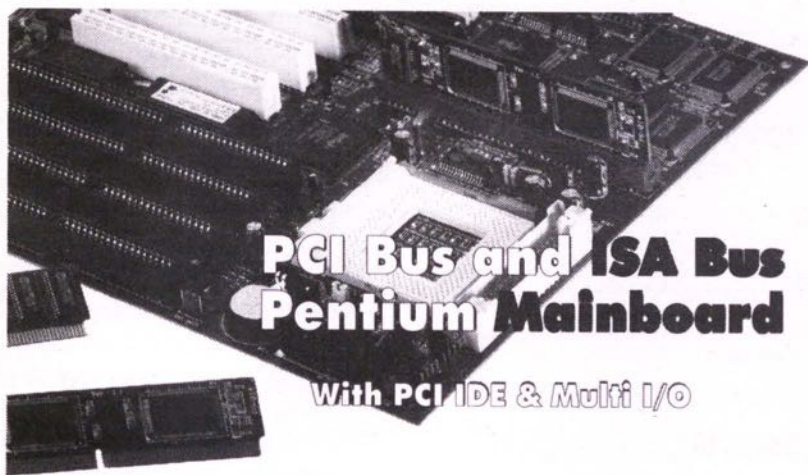


# YOUR ONE-STOP SOURCE!

**Broad Selection**

**Competitive Prices**

**Brand Names**



**PCI Bus and ISA Bus  
Pentium Mainboard**

With PCI IDE & Multi I/O

## SPECIFICATION

### CPU

Intel Triton PCiset support  
Pentium 75/90/100/120/133/150/167/180/200 MHz processors  
Supports Voltage Regulator Module (VRAM)

### Architecture

3 PCI Local Bus slots and 4x16 bits ISA Bus slots,  
All three PCI slots support Master mode.  
Achieve high performance transfer rate 16.67MB/S for bus master,  
PCI Bus bandwidth up to 100MB/S

### Cache Memory Slot

Level 2 cache 256/512 KB Asynchronous or  
256KB Pipeline burst SRAM module

### System Memory

Use 72-pin SIMM modules x 4 auto banking  
in multiple configuration up to 128MB,  
Supports EDO mode DRAMs.

### I/O SPEC

2 PCI IDE interface on board support ATA spec. up to mode 4  
IDE interface- Bus master support,  
Support two 16550 compatible enhanced serial port,  
Floppy disk interface and  
EPP/ECP high performance parallel port function

### System BIOS

Support Flash ROM, Plug and Play, Green Feature,  
NCR 810 SCSI BIOS



Buy  
**P-90 S3000 Series**  
Get **ONE PCMCIA  
CD ROM FREE**  
while quantities last

**SCEPTRE®**  
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486DX4-100 to Pentium 120

Touchpad, FDD/Adaptor/2nd Battery swappable/  
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**Ampttron®**

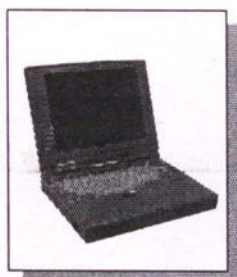
**Intel Pentium  
Motherboard  
with Triton Chipset**



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High Resolution Monitors  
Featuring 14", 15", 17", and 21"

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- Low Radiation
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**SCEPTRE**

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486 66/100 or Pentium 75/90

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- NiMH Batt.
- Mono, Active,  
& DualScan



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DualScan & Active Matrix LCDs

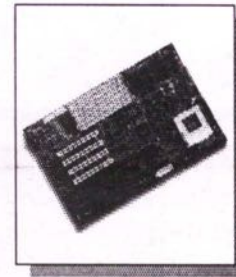
- Space Saving (1.5" deep)
- Portable & Tiny footprint
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- Low power consumption



**Acer**

AcerOpen Systems  
Pentium & 486 Systems

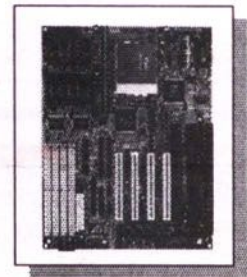
- Modular Design
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**Acer**

Motherboards  
Pentium & 486 Motherboards

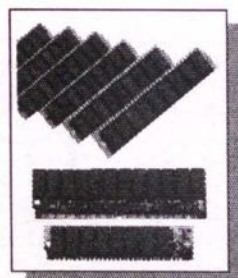
- Acer
- Leo (FIC)
- Gigabyte
- 72-pin & 30-pin SIMMs
- Energy Star Compliant



**Ampttron**

Pentium Motherboards  
System Components

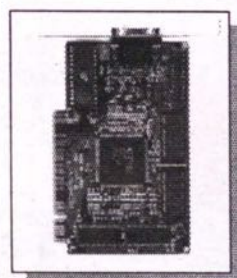
- IP54NP4 Dual Pentium
- EP54NP4 EISA Dual Pentium
- P55TP4XE, Pentium 75-133
- EDO & Pipeline Burst SRAM
- Plug 'n Play, Flash BIOS



**TOSHIBA**

Memory Modules  
Premium Japanese & US RAM

- Toshiba
- Hitachi
- Digital
- NEC, OKI
- TexasInstruments



**DIAMOND**

Peripherals

- S3, Trident, Cirrus Logic,
- ATI, Diamond Video Cards
- 14.4 & 28.8 FaxModems
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KME Cases & Power Supplies

- Minitower: 13"
- Tower: 15", 19", 21"
- Server Tower: 26" & Dual
- CSA Power Supplies
- 200W, 230W, 250W, 300W



**CREATIVE**

Multimedia

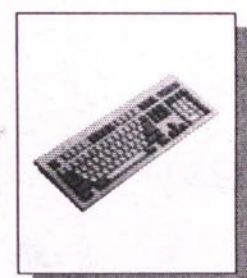
- Creative Labs
- Turtle Beach
- Sony, Panasonic, Toshiba
- CD Titles & Bundles
- EVER Multimedia cases



**WESTERN DIGITAL**

Hard Drives

- Western Digital, Seagate
- Maxtor, Conner, Quantum
- IDE from 560MB to 1.6GB
- SCSI from 540MB to 9.0GB
- System & Notebook Drives



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Keyboards & Mice

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- NMB

**Distributors:**

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Tel (604) 244-7798 Fax (604) 244-7796

**Dealers:**

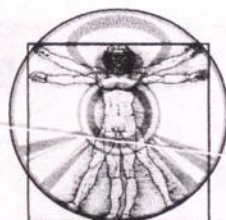
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Tel (604) 377-4982  
Fax (604) 435-3222



**Quantum Technologies**  
Unit 125, 3751 Jacombs Rd Richmond, BC  
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Just \$1298.00

**2 for 1**

rental of any PC CD-ROM,  
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Full Bleed  
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13 x 19  
Paper  
Size

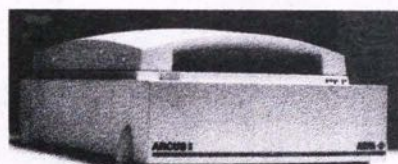
**\$2300**

### EPSON ES1200C Scanner



**\$1699**

30 Bit  
Color



Agfa Arcus 36 Bit Scanning

**\$2250**



Polaroid SprintScan35 30 Bit

### Iomega Zip Drives



**\$295**

## Scanner Rental

High resolution 35mm slide, transparency,  
& photo scanners for only \$20 per hour.  
Pentium or Power Mac Workstation  
Iomega Zip Drive  
Reservations recommended

4 x 5  
Wacom  
Art Pad II  
\$230

## Cray Unveiling New Super System

Cray Research Inc. unveiled a new parallel-processing supercomputer with what observers say is unprecedented speed.

Cray has been best-known for its multimillion-dollar vector supercomputers that use just a few very powerful processors.

The smallest models are likely to be priced at well under \$1 million and buyers will be able to increase power by adding just a few processors at a time in the future making the systems "highly scalable" in industry parlance. The T3E can be built with as few as 16 processors or as many as 2,048 processors.

## Program Checks CD-ROM Compatibility

TouchStone Software Corp. has joined forces with Blockbuster Video to publish a program that lists all CD-ROMs available at Blockbuster outlets and automatically indicates which titles are compatible with a shopper's own PC.

The software, Blockbuster PC MatchMaker, is designed to take the hassle out of renting or buying CD-ROMs by minimizing the likelihood that customers will bring home titles that won't run on their PCs. The program is a customized version of TouchStone's WINCheckIt utility.

## Yahoo Sells 12 Percent to Investors

New investors, including Reuters Holding PLC and Ziff-Davis Publishing Co., have bought 12 percent of Yahoo Corp.,

provider of a popular search engine used on the Internet's World Wide Web.

Yahoo officials told the Associated Press the Mountain View, California, firm will use the money and strategic partnerships to expand its products and services domestically and internationally. They opted not to disclose the amount of money raised though the equity sale.

Besides Reuters and ZD, other investors are Softbank, Japan's largest computer distributor; the Capital Group Companies Inc., a money management firm, and Open Text Corp., a Canadian developer of search software for the Internet.

Yahoo was formed last year by two graduate students at Stanford University. It derives revenue by selling advertising on its Web site, used by tens of thousands of people each day.

## High-Speed Data Alliance Formed

AT&T Network Systems, Hewlett-Packard Co., Hybrid Networks Inc. and Intel Corp. have agreed to develop interoperable products for delivering high-speed data services to PCs via broadband networks.

According to the Reuter News Service, the companies plan to publish an open specification by the end of 1995, which they will then submit to the appropriate standards committees, cable companies and others for their review and recommendations.

Initially intended to be used for data, the protocol will eventually be capable of delivering voice and video services.

### WISCOM

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### MERRY CHRISTMAS & HAPPY NEW YEAR

SALESALESALESALESALESALES

<b>BERRY Computer</b> <b>BPC586-i133Mhz</b> ▶ <b>\$1,988</b> <b>BERRY Computer</b> <b>BPC586-i120Mhz</b> ▶ <b>\$1,768</b> <b>BERRY Computer</b> <b>BPC586-i100Mhz</b> ▶ <b>\$1,688</b> <b>BERRY Computer</b> <b>BPC586-i90Mhz</b> ▶ <b>\$1,618</b> <b>BERRY Computer</b> <b>BPC586-i75Mhz</b> ▶ <b>\$1,498</b>	<b>586 System Features</b> ✕ Intel Pentium 75/90/100/120/133 CPU Intel TRITON Chipset MB w/ 256k Cache 8 Megabyte Memory RAM 850 Megabyte Enhanced IDE Hard Drive 3.5" (1.44MB) Floppy Drive PCI Bus Architecture :: PCI Video Display w/ 1MB DRAM PCI Enhanced IDE Controller w/ 2 x 16550 UART Super IO Tower-Case (13") Display & 200WPS 101-Enhanced Keyboard MS Compatible Mouse (3B) 14" Non-Interlaced ES Monitor (1024x768)
<b>2 Year Parts &amp; Labour</b> <b>BERRY Computer</b> <b>BPC486-a120Mhz</b> ▶ <b>\$888</b> <b>BERRY Computer</b> <b>BPC486-a100Mhz</b> ▶ <b>\$873</b> <b>BERRY Computer</b> <b>BPC486-a80Mhz</b> ▶ <b>\$803</b> <b>BERRY Computer</b> <b>BPC486-a66Mhz</b> ▶ <b>\$798</b>	<b>486 System Features</b> ✕ AMD 486 DX2-66/80 DX4-100/120 CPU VLB-ISA SystemBoard w/ 256k Cache 4 Megabyte Memory RAM 540 Megabyte Enhanced IDE Hard Drive 3.5" (1.44MB) Floppy Drive Vesa-Local Bus (32) Architecture :: VLB Video Display w/ 1MB DRAM VLB Enhanced IDE Controller w/ IO Tower-Case (13") Display & 200WPS 101-Enhanced Keyboard MS Compatible Mouse (3B)

### Special Products

2X DS / 4X QD CD-ROM Drive  
 Sound Blaster 16 Stereo SoundBoard  
 Deluxe 30Watts Amp. Speaker w/ Vol.  
**\$185.00 / \$288.00**  
 中文博士筆 **\$259**  
 TDK Recordable CDs 650MB **\$14.50**  
 1.44MB Floppy Disk (10pcs) **\$4.40**  
 FAX / MODEM (Internal)  
 14.4 Fax / Modem **\$65.00**  
 28.8 V.34 Fax / Modem **\$180.00**  
 Windows 95 w/ system (full) **\$148.00**  
 Microsoft Ver 2.0 J-Mouse **\$35.00**

### 486 NoteBooks

**JETBOOK Symphony**  
 DX4-75, 8MB Ram, 256MB Hard Drive  
 Vesa-Local-Bus, 16 Bit SoundChip  
 DSTN Color/TFT Color **\$3055/\$3949**  
**SMARTBOOK SoundPro**  
 DX4-75, 4MB Ram, 256MB Hard Drive  
 DSTN Color/TFT Color **\$2549/\$3449**

**SCEPTRE (Dual Scan Color)**  
 SX-33, 4MB Ram, 340MB Hard Drive **\$1525**  
 S1000 Series w/ Sound Chip Built-In, Spk...  
 DX2-66, 8MB Ram, 340MB Hard Drive **\$2549**  
 DX4-100, 8MB Ram, 340MB Hard Drive **\$2829**  
 Vesa-Local-Bus, SoundChip, Spk, TrackBall  
 Call for Monochrome, DSTN Color, TFT Color

### Printers/Modem

Brother, Canon  
 WD, Seagate..  
 486, Pentium..  
 Computer ...  
 30pin, 72pin

### TroubleShooting

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# Computer Parts Centre

*Mail order and upgrades are welcome!*

## IBC Pentium Value System

### Intel Pentium PCI System

- \* Intel Pentium CPU PCI System
- \* GIGABYTE Motherboard
- \* 8 Megabytes 72PIN SIMM RAM
- \* 1.44MB High Density Floppy Drive
- \* Western Digital 850MB Hard Drive
- \* PCI EIDE 2x16550 Built-In
- \* ATI/Diamond 64bit 1MB VGA Card
- \* 15" NI 1280\*1024 SVGA LR Monitor
- \* Fujitsu 101 Enhanced Keyboard
- \* 19" Tower Case 200W Power Supply
- \* Logitech MouseMan 3 Button Mouse
- \* CPU Heatsink w/Fan /Installed

Pentium - 75 \$1919  
Pentium - 90 \$2029  
Pentium - 100 \$2129

Pentium - 120 \$2199  
Pentium - 133 \$2469

## IBC Pentium Power System

### Intel Pentium PCI System

- \* Intel Pentium CPU PCI System
- \* Intel-Endcavor Triton Motherboard
- \* 8 Megabytes 72PIN SIMM RAM EDO
- \* 1.44MB High Density Floppy Drive
- \* Western Digital 850MB Hard Drive
- \* PCI EIDE 2x16550 Built-In
- \* ATI/Diamond 64Bit 1MB VGA Card
- \* 15" NI 1280\*1024 SVGA LR Monitor
- \* Fujitsu 101 Enhanced Keyboard
- \* 19" Tower Case 200W Power Supply
- \* Logitech MouseMan 3 Button Mouse
- \* CPU Heatsink w/Fan /Installed
- \* SoundBlaster 16 (Vibra) Built-In
- \* Quad Speed 4X CD-ROM Drive

Pentium - 75 \$2349  
Pentium - 90 \$2449  
Pentium - 100 \$2549

Pentium - 120 \$2599  
Pentium - 133 \$2879

### Memory & CPU & Motherboards

(Build in EIDE on PCI Motherboard)

Memory	\$ Call
Mother Board (No cpu)	
GIGABYTE 486 AM PCI	\$ 169
GIGABYTE 586 AM UMC P&P	\$ 229
GIGABYTE 586 ATE TRITON	\$ 259
Intel Endeavor Mainboard	\$ 459
W/Triton Chipset 256k Cache	
Pipelined Burst Sound blaster 16 built-in	

### Local Bus Video Cards

Trident 9440 1MB DRAM PCI	\$99
ATI/Diamond 64bit 1MB DRAM	\$179
ATI/Ultra Pro 2MB VRAM VL	\$249
Diamond Viper 2MB VRAM VL	\$249
ATI MACH64 2MB DRAM PCI	\$245
ATI Mach64 2MB VRAM PCI	\$359
MiroCRYSTAL-20SV 2MB VRAM	\$349
Diamond Stealth64 2MB DRAM	\$239
Diamond STcalth64 2MB VRAM	\$369

### I/O Controller Cards

VL-VESA EIDE 2S, 1P,1G	\$ 25
Adaptec 2940 PCI Wide SCSI	\$369

### Hard Drives

Western Digital 850MB 10ms	\$285
Western Digital 1.0MB 10ms	\$345
Western Digital 1.2GB 10ms	\$395
Western Digital 1.6GB 10ms	\$545
Conner 1.28 GB Hard Drive	\$375

### Misc. & Accessories

Cables; Ribbons; Toners	
Removable IDE Hard Drive Kit	\$ 39
External SCSI HD Box w/PS 3.5	\$115
External SCSI HD Box 5.25 Bay	\$125
Windows 95 Full Version (OEM)	\$135

### Fax Modems

SmartLink 14.4	Int.	\$ 65
SmartLink 14.4 Voice	Int.	\$ 85
SmartLink 28.8 V.34	Int.	\$175
Sportster 28.8 V.34	Int.	\$239
Sportster 28.8 V.34	Ext.	\$289
sportster 28.8 DSVD	Int.	\$389

### Tape Backup

Colorado 350MB Internal	\$199
IOECCA Zip Drive External	\$289

### Multimedia

Panasonic 4X CD-ROM IDE	\$179
Panasonic 4X CD-ROM SCSI	\$265
Teac 6X CD-ROM Drive IDE	\$345
Toshiba 4X CD-ROM IDE	\$209
Toshiba 6.7X CD-ROM SCSI	\$535
Diamond 16 Bit Stereo MCD	\$ 85
Sound Blaster 16 Vibra	\$105
Sound Blaster 16 SCSI-2	\$249
Sound Blaster 32 IDE	\$225
Sound Blaster 32 AWE P&P	\$319
4W Speaker Pair	\$ 9
40W Speaker W/AC-DC adapter	\$ 39
80W Speaker W/AC-DC Adapter	\$ 79
120W Speaker W/AC-DC Adapter	\$ 99
Microsoft Encarta 95 4CDS	\$ 95

### Monitors

14" N/I .28 SVGA Monitor	\$ 299
ADI 4V NI LR 1280*1024	\$ 529
CompuPartner 15" N/I .28 LR	\$ 475
CompuPartner 17" N/I .28 LR	\$ 845
MAC DX17F 17" .26 NI 12800	\$ 969
NEC 17XV 17" N/I .28 1280	\$1079
Sony sf 15" .25 NI LR 1280	\$ 679
Samsung 17" CLSI .26 1600	\$1259
Monitor Repair From \$65	
Free Estimate	

### Keyboards & Mice

Fujitsu 9720 101 Keyboard	\$29
Focus 2001 101 Key Tactile	\$48
Fujitsu 4720 Soft Touch	\$59
North Gate Omni Plus	\$88
Super II/Genious 3b Mouse	\$10
Logitech MouseMan (OEM)	\$30
Logitech TrackMan Portable	\$75

### Cases & Power Supplies

13" Mini Tower 200 Watts	\$65
15" Mini Tower 200 Watts	\$75
19" Mid Tower 200 Watts	\$85
24" Full Tower 230 Watts	\$120

Lifetime warranty on power supply

### Printers

Brother HL-660 2MB 6PPM	\$ 739
Brother HL-1260 2MB 12PPM	\$1549
Hewlett-Packard 660c	\$ 549
Raven 2405 Hush 24PIN	\$ 239
Canon BJC-4000 Bubble Jet	\$ 409
Canon BJC-210 Bubble Jet	\$ 389

### Network Cards

Microdync NE5500 PCI 10bas2	\$165
3Com509 Combo EtherLink III	\$178
SMC EtherEasr 16bit	\$135

Prices are subject to change without notice. C.O.D. cash only.

# IBC Computers

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Microsoft yes  
It runs with NetWare

Canon FUJITSU

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Quantum

systems

hp HEWLETT  
PACKARD



## 3D Triton Station

Intel Pentium Processor with Fan (support up to 166MHz)  
Triton chipset PCI/ISA Main Board w/256KB Pipeline Burst Cache  
8MB-70ns EDO Performance Enhanced DRAM exp. to 128MB  
1.44MB Floppy Drive  
850MB Fast IDE Hard Drive (Mode 3)  
PCI Enhanced IDE Cont. w/ 2x16550 Serial, 1xBi-Directional Parallel  
PCI Diamond 3D Edge Accelerator w/1MB DRAM (exp. to 2MB)  
Built-in 16 bit Wavetable Audio with Speakers, 2 Mega Saturn Ports  
4x Speed CD-ROM  
Sceptre 15" Non-Int. Low Rad. SVGA Monitor PnP  
Mid-Tower Case with CSA Power Supply  
101-keys Enhanced Keyboard  
2 Year Parts & Service Warranty

**EDO  
MEMORY  
INSTALLED**

75 MHz ..... \$2,190  
100MHz ..... \$2,330  
120MHz ..... \$2,470  
133MHz ..... \$2,710  
166MHz ..... Call



pentium  
PROCESSOR

## Triton Station Plus

Intel Pentium Processor with Fan (support up to 166MHz)  
Triton chipset PCI/ISA Main Board w/256KB Pipeline Burst Cache  
8MB-70ns EDO Performance Enhanced DRAM exp. to 128MB  
1.44MB Floppy Drive  
850MB Fast IDE Hard Drive (Mode 3)  
PCI Enhanced IDE Cont. w/ 2x16550 Serial, 1xBi-Directional Parallel  
Support up to 4 IDE Hard Drive, Max. Transfer Rate up to 16MB/Sec  
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Sceptre 15" Non-Int. Low Rad. SVGA Monitor PnP  
Mid-Tower Case with CSA Power Supply  
101-keys Enhanced Keyboard  
2 Year Parts & Service Warranty

**EDO  
MEMORY  
INSTALLED**

75 MHz ..... \$1,915  
100MHz ..... \$2,055  
120MHz ..... \$2,195  
133MHz ..... \$2,435  
166MHz ..... Call

Full Motion  
MPEG

Full Screen

## Creative Labs \$425

4X Discovery Kit Includes 15 Multimedia Titles  
Sound Blaster 16 PnP & 3D Stereo Technology  
Full Throttle, Star Wars Dark Forces SE,  
Virtual Pool, Grolier Encyclopedia and more..

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IDE 850MB \$266  
1.08GB \$318

1.2GB  
\$359

HARD  
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## Monthly Special !!

### SIMM Memory

4MB 70ns 72-Pin SIMM ..... \$155.00  
8MB 70ns 72-Pin SIMM ..... \$299.00  
16MB 70ns 72-Pin SIMM ..... \$599.00  
1MB 70ns 30-Pin SIMM ..... \$ 39.99  
4MB 70ns 30-Pin SIMM ..... \$159.00

### PANASONIC

PANASONIC 2X Speed Internal  
CD ROM Drive

Limited Quantity !! \$78.00

### GVC Modem

14,400bps Internal Fax Modem  
V.32 bis with Error Control

Limited Quantity !! \$59.00

## Power Station

Features:  
Intel Pentium CPU with Fan  
Pentium PCI/ISA Main Board  
w/256KB External Cache  
8MB-70ns Fast Page DRAM exp. to 128MB  
1.44MB Floppy Drive  
540MB Fast IDE Hard Drive (Mode 3)  
PCI Enhanced IDE Controller (Mode 3 & 4)  
PCI Trident 9440 Windows Accelerator  
with 1MB DRAM (expandable to 2MB)  
2x16550 UART Serial, 1 Bi-Directional Parallel  
14" Non-Int Low Rad. SVGA Monitor .28mm dp  
Mid-Tower Case with 230W CSA Power Supply  
101-keys Enhanced Keyboard  
2 Year Parts & Service Warranty

**BEST  
BUY**

## PENTIUM PENTIUM

75MHz \$1,455  
100MHz \$1,595  
120MHz \$1,735

## Power Station Plus

Features:  
Intel Pentium CPU with Fan  
Pentium PCI/ISA Main Board  
8MB-70ns Fast Page DRAM exp. to 128MB  
1.44MB Floppy Drive  
540MB Fast IDE Hard Drive (Mode 3)  
PCI Enhanced IDE Controller  
PCI Cirrus Logic 5440 Windows Accelerator  
with 1MB DRAM (MPEG Playback)  
2 16550 UART Serial, 1 Parallel & 1 Game Port  
14" Non-Int Low Rad SVGA Monitor .28mm dp  
Mid-Tower Case with 230W CSA Power Supply  
101-keys Enhanced Keyboard, Speakers  
Sound Blaster 16 Card, 4X Speed CD-ROM  
2 Year Parts & Service Warranty

**MPEG  
Playback**

75MHz \$1,755  
100MHz \$1,895  
120MHz \$2,035

## Multimedia System

Features:  
486 VESA/ISA Main Board  
P24T upgradable w/256KB External Cache  
4MB-70ns Fast Page DRAM exp. to 128MB  
1.44MB Floppy Drive  
540MB Fast IDE Hard Drive (Enhanced Mode 3)  
VESA Local Bus FDD/Enhanced IDE Controller  
VESA Cirrus Logic 5429 Windows Accelerator  
with 1MB DRAM (expandable to 2MB)  
2 Serial, 1 Parallel & 1 Game Port  
14" Non-Int Low Rad SVGA Monitor .28mm dp  
Mid-Tower Case with 230W CSA Power Supply  
101-keys Enhanced Keyboard, Speakers  
Sound Blaster 16 Card, 2x Speed CD-ROM  
2 Year Parts & Service Warranty

**2X  
CD ROM**

486 INTEL AMD  
DX2-66 ..... \$1,285  
DX4-100 ..... \$1,360 \$1,345  
DX4-120 ..... \$1,370

## Impression

Features:  
486 VESA/ISA Main Board  
P24T upgradable w/256KB External Cache  
4MB-70ns Fast Page DRAM exp. to 128MB  
1.44MB Floppy Drive  
540MB Fast IDE Hard Drive (Enhanced Mode 3)  
VESA Local Bus FDD/Enhanced IDE Controller  
VESA Cirrus Logic 5429 Windows Accelerator  
with 1MB DRAM (expandable to 2MB)  
2 Serial, 1 Parallel & 1 Game Port  
14" Non-Int Low Rad. SVGA Monitor .28mm dp  
Mini-Tower Case with CSA Power Supply  
101-keys Enhanced Keyboard  
2 Year Parts & Service Warranty

**NEW !!**

PCI Bus  
w/ FAST I/O &  
64 BIT VIDEO  
\$ 55 more

486 INTEL AMD  
DX2-80 ..... \$1,080  
DX4-100 ..... \$1,155 \$1,140  
DX4-120 ..... \$1,165

## Video Graphics Adaptors

ATI Mach 64 Xpression VLB/PCI w/2MB DRAM ..... \$228.00  
ATI Mach 64 WinTurbo VLB/PCI w/2MB VRAM ..... \$355.00  
ATI Mach 64 Win Turbo VLB/PCI w/4MB VRAM ..... \$590.00  
Diamond Stealth 64 Video PCI w/1MB DRAM ..... \$180.00  
Diamond Stealth 64 Video PCI w/2MB DRAM ..... \$230.00  
Diamond Stealth 64 Video 3200 PCI w/2MB VRAM ..... \$355.00  
Diamond Stealth 64 Video 3240XL PCI w/2MB VRAM ..... \$465.00  
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Connector RJ45M	\$1.00

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CNet CN887PC 8 Port Hub	\$175
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CNet CN8910TPC 12 Port Hub w/SNMP	\$1040
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SMC Tigerhub 6 Port Hub	\$238
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CNet CN970EBT 10 Base T PCI	\$180
Eagle Anthem NE2000T + ea/5+	\$101 / 95
Eagle Anthem NE200T PCMCIA	\$294
HP EtherTwist 16 10 BaseT ea/5+	\$118
IBM Ethernet 10 BaseT Adapter ea/5+	\$117
IBM PCMCIA Ethernet 10 BaseT	\$283
Intel EtherExpress Pro 10 BaseT	\$147
Microdyne NE 2000T+ 10 BaseT	\$101
Microdyne NE 2000T+ 10 BaseT 20 pk	\$1835
Microdyne NE3300 EISA Combo	\$288
Microdyne NE5500 PCI 10 Base T	\$259
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HP Networks 100VG 15 Port Hub	\$3100
SMC Etherpower 10/100Base-T PCI	\$290
SMC TigerHub 100 16-Port	\$3185
Thomas Coax 100 Mbps Adapter	\$660
Thomas Coax STP 100 Mbps Adapter	\$660
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Broadband networks are capable of delivering data to PCs at speeds up to 1,000 times faster than 28.8 Kbps telephone modems, thereby taking full advantage of the multimedia offerings of the Internet, online services and other data-rich applications.

## Anti-Game Software Ships

DVD Software Inc. has released UnGame 2.0 for Windows, the first Windows

version of a program that's designed to erase games from company PCs.

DVD, based in Irvine, California, says the new release can eliminate up to 3,100 different games and can significantly improve the productivity of PC users at work.

The company notes that UnGame can detect and remove games under Windows 3.x, Windows 95, Windows NT, OS/2, DOS and all major network operating systems.

UnGame 2.0 for Windows 2.0 is priced at \$59.99 per file server. A shareware version of the software is available in CompuServe's Novell User Library Forum (GO NOVUSER) in the file UNGAME20.ZIP.

## Nintendo Offers 64-Bit Unit

A US\$250 next-generation 64-bit home video game equipment will go on sale in Japan next spring from video game maker Nintendo

Co. Ltd., along with three new software titles designed specifically for the new unit.

Reporting from Tokyo, the French Agence France-Press International News Service quotes Nintendo as saying the product has "the top-level power of expression which is impossible for conventional ones" and is able to display "glistening translucent water" and "metallic objects and characters."

Its 64-bit central processor unit is made by California-based Silicon Graphics Inc.

As noted earlier, Nintendo said last May it was delaying launch of the new game in overseas markets, blaming the yen's continued strength against the dollar.

The Kyoto-based company said it planned to release the "Ultra-64" game in the United States and Europe around April next year.

The wire service observes that when Nintendo's 16-bit Super Family Computer made its debut in 1990, it created a boom in video game machines. A total of 36.53 million units had been sold worldwide by the end of March, of which 22.06 million were sold outside Japan.

## Toshiba to Build New Plant

A new factory in northern Japan to produce microprocessors and memory chips has been announced by Toshiba Corp.

In Tokyo, the Japanese electronics giant said it invest about \$1.27 billion over the next three years and begin production at the new factory by March 1998.

According to the Associated Press, monthly production capacity will reach 30,000 wafers.

## Feds Launch Windows 95 Probe

Word on the street is US federal investigators are asking whether Microsoft Corp. intentionally set up digital roadblocks in its Windows 95 operating system to disable rival companies' Internet access programs.

According to the Wall Street Journal, the US Justice Department has issued subpoenas to CompuServe, Netscape Communications Corp., and Netcom On-line Communications Services Inc.

The paper says federal investigators are focusing on whether Windows 95 and its related Internet software improperly disable rival programs that let users access the Internet's World Wide Web. As noted, a number of online companies, including CompuServe and Netscape, complained about the Windows 95 program when it made its debut in August, saying the software and an accompanying product called Plus!, which provides Internet access, essentially wiped out rival access software.

Microsoft executives contend the problem was caused by weakness in the other companies' software, saying it has helped rivals fix any snags affecting their products and that any problems created by its programs were unintentional.

Michael Conte, Microsoft's group manager for personal systems, told the paper his employer would not deliberately make Windows 95 incompatible with rival products because such glitches would detract from the popularity of its product.



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## TOSHIBA Color T2130 Satellite T2130 series of high-performance notebooks

Toshiba's Satellite T2130 series of notebooks gives mobile users the power and speed of an SL Enhanced Intel 486 DX4 processor. The 8-MB standard memory is expandable to 32 MB using Toshiba's user-installable memory module. Users can also expand the Satellite T2130 series to meet their particular needs by using industry-standard PC Cards, such as fax modem communication cards.



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Daytek 14" NI.LR. SVGA Color Monitor .28dot	\$325
Daytek 15" NI.LR. SVGA Color Monitor .28dot	\$460
MAG DX-15 15" NI.LR. Color Monitor .28dot	\$510
MAG DX-17 17" NI.LR. Color Monitor .26dot	\$930
Sony 15FS 15" NI.LR. Color Monitor .25dot	\$685
Sony 17SE 17" NI.LR. Color Monitor .25dot	\$1530
NEC 15XV 15" NI.LR. Color Monitor .28dot	\$670
NEC 15XE 15" NI.LR. Color Monitor .28dot	\$810
NEC 17XE 17" NI.LR. Color Monitor .28dot	\$1460
NEC 17XV 17" NI.LR. Color Monitor .28dot	\$1160
Acer 15" Color Monitor .28dot	\$438
Acer 15" Digital Color Monitor .28dot	\$495

## Printers

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HP 5P Laser Printer 600dpi	\$1260
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HP 4M-Plus Laser Printer 600dpi 12ppm	\$2710
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Canon BJC-70 Portable Color Bubble Jet	\$479
Canon BJC-4000 Color Bubble Jet	\$395
Canon BJC-210 Color Bubble Jet (New)	\$399
Canon LBP-430W Laser Printer 300dpi	\$569
Canon LBP-460 Laser Printer 600dpi	\$489

## Modems

Hayes 14,400bps Fax & Modem Internal	\$135
U.S. Robotics 14,400bps Fax & Modem Internal	\$110
U.S. Robotics 28,800bps Fax & Modem Int. & Ext.	\$249/278
U.S. Robotics 28,800bps Fax & Modem Int.w Voice	\$299
Cardinal 14,400bps Fax & Modem w.Voice Int.	\$138
Cardinal 28,800bps Fax & Modem w.Voice Int.	\$259
Cardinal 28,800bps Fax & Modem Ext.	\$220

## Multimedia

Sound Blaster 16 Sound Card	\$118.00
SONY 77E IDE 4x CD-ROM Internal	\$185.00
Panasonic 4x IDE CD-ROM Internal	\$185.00
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Toshiba SCSI 4x IDE CD-ROM Internal	\$399.00
NEC 6x SCSI CD-ROM Internal	\$599.00

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Trident 9440 PCI video card w/ 1MB exp. to 2MB	\$99.00
Trident 8900D Video card w/ 1 MB ISA Bus	\$88.00
ET4000 PCI Video Card W/1MB exp. to 2MB	\$99.00
Diamond Stealth 64 1MB/2MB PCI	\$175/235
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ATI Mach64 2/4MB VRAM VLB/PCI	\$355/595

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Western Digital, 850 MB EIDE Hard Drive	\$288
Western Digital, 1.2GB EIDE Hard Drive	\$395
Western Digital, 1.6GB EIDE Hard Drive	\$545
NEC 730MB SCSI-2 Hard Drive	\$260
NEC 1.08GB SCSI-2 Hard Drive	\$368
NEC 2.1GB SCSI-2 Hard Drive	\$930
Conner Tape Stor 800MB	\$280
Conner Tape Stor TMS4000 IDE/SCSI	\$595
1.44MB 3.5" Floppy Drive	\$49

Prices are subject to change without notice. VISA service charge is 2.8%.

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## Survey Sees Multi-PC Homes

A new survey says that for PC makers to achieve sales growth they increasingly must rely on consumers who are buying a second or third machine.

The research by Link Resources Inc. of New York also found PC sales growth is moving faster in Europe and the Pacific Rim than in the United States.

According to the Associated Press, Link's survey suggests the U.S. market is almost saturated, "partly because America adopted computers for home use much

sooner than other countries," the wire service says. "It also indicates more people update their machines every few years."

The research also finds:

- There is more than one computer in 30 percent of PC-owning households in the United States.
- About 35 to 40 percent of all U.S. households are expected to have a PC by the end of this year, with around 11 percent owning at least two.
- Worldwide PC sales to consumers this year should reach 21.2 million units, including

9.45 million in the United States, up from 16.3 million, 7.5 million in the United States, last year.

- In 1996, 26.8 million PCs are forecast in sales to consumers, with 11.1 million in the United States.
- Consumers account for about 45 percent of all PC sales, followed by businesses, government and educational institutions.

Link analyst Andy Bose, who led the research, told the wire service, "PC manufacturers are going to have to depend on current PC households for much of future

growth. When you get to 55 to 60 percent penetration range, it's going to be difficult to get any new first-time buyers."

AP says the survey found similar behavior in 12 other countries, particularly Australia, Singapore and Hong Kong, where PC sales also are in nearly one-third of all households. In Europe, PCs are now in about one-fourth of all households.

## Sun, Netscape Unveil JavaScript

JavaScript, a new programming language for customizing software applications on

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Ethernet Hardware Kit (2cards, 2 terminators, 25' coax)	\$175
Lantastic AI v6.0 Starter Kit (complete setup for 2 node)	285
Lantastic AI v6.0 Add-On Kit (complete setup for 1 node)	155
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Intel EtherExpress Pro/10 Ethernet card (10BT)	145
3Com 3C509 Etherlink IIIB Ethernet Card (10BT/10B2)	175
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Gateway 16-bit Ethernet Card	50
DataRace Redicard PCMCIA Ethernet Card (Coax)	125
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Asus SP4 Pentium-75MHz PCI MB, 256k cache, IDE/IO	535
Asus TP4XE Pentium-75MHz PCI MB, 256k cache, IDE/IO	560
Asus TP4XE Pentium-90MHz PCI MB, 256k cache, IDE/IO	690
Asus TP4XE Pentium-100MHz PCI MB, 256k, IDE/IO	765
Asus TP4XE Pentium-120MHz PCI MB, 256k, IDE/IO	850
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Adaptec AH-2940 PCI SCSI-2 Controller Kit	375

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Colorado Travan T1000 Tape Backup Drive (800MB Max.)	265
Colorado DJ-50 Tape Backup Drive (1.4GB Max.)	335
Colorado Trakker 350 Parallel Backup (350MB Max.)	325
HP SureStore 2/4GB Internal 4MM Dat Drive	1155
HP SureStore 4/8GB Internal 4MM Dat Drive	1475
3M DC2120 tape cartridge 120MB capacity	\$ 20
3M DC2120XL Tapes, (350MB Max.)	25
3M MC3000XL Tapes, (1.4GB Max.)	45
3M DG90M 4MM DAT Tapes	20
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Full-size 25" tower case w/250W Jaba PS	165
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Logitech Mouseman (Serial/Bus)	75/ 95
Logitech Trackball serial mouse	115
Microsoft Mouse v2.0 (Serial/Bus)	85/ 115
Logitech Scanman 256 w/Omnipage OCR	155
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Logitech Scanman Colour w/Omnipage OCR	295
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Multimedia Stereo Speakers, 25 Watts	50
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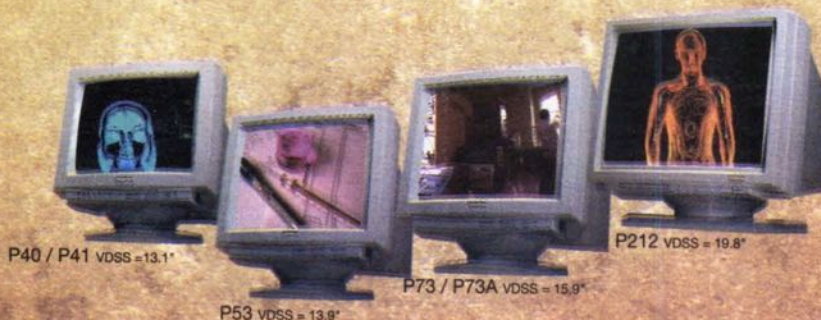
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computer networks and the Internet, was unveiled by Netscape Communications Corp. and Sun Microsystems Inc.

The language is to be distributed free on the Internet, a move the Reuter News Service says could enable Netscape and Sun "to set the next generation of software standards for the Internet, where rival Microsoft Corp. is also investing heavily."

The wire notes in a report from Mountain View, Calif., that Microsoft this week is expected to outline its plans for future Internet products.

However, Netscape and Sun say 28 companies have agreed to adopt JavaScript as a standard and provide it in their products.

Marc Andreessen, vice president of technology at Netscape, told the wire service, "This broad industry support for JavaScript will fuel rapid development of an entire new class of live online applications."

Analyst Laura Conigliaro of Prudential Securities said the support of JavaScript "is definitely an effort to take a position counter to Microsoft," adding, "From an offensive point of view, many companies are finding their strategies and business models cut off by what Microsoft has done or is likely to do."

## Intuit to Provide Net Banking

The publisher of the popular Quicken financial program is setting up to provide banking over the Internet, developing a connection to enable customers to do

routine transactions, such as pay bills, check account balances and transfer funds.

Officials with Menlo Park, California-based Intuit Corp. told the Associated Press the service will be available by the second half of next year.

The wire service reports Intuit is developing a general Internet connection and a customized connection that will work with Netscape Navigator. "To ensure that banking transactions are safe from online thieves," AP adds, "Intuit is employing security software designed to hide bank account information."

Right now Intuit provides online banking through Quicken, but the new banking service apparently will be independent of the financial software, allowing customers to communicate with banks over an open, global network.

## Toshiba Offers Low-Cost Server

From Tokyo comes word Toshiba Corp. has developed a low-cost multimedia server system that can distribute motion pictures and data to 240 subscribers at the same time on an on-demand basis.

A Toshiba spokesman told the Reuter News Service the new system, called SmartStreamer, does not use expensive parallel processor computers or workstations, so its price will be about one-fifth that of other experimental or commercial systems.

"Toshiba plans to introduce the new server system to the market in the second half of 1996."



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HP 600 Inkjet (Mono) \$ 479  
HP 660C Inkjet \$ 590  
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## CD-ROM Celebrates The Who's Tommy

The Who's Tommy, the rock opera that has experienced incarnations in album, movie, concert and stage versions, is now headed to CD-ROM in the form of a multimedia documentary.

Interplay Productions Inc., an Irvine, California-based multimedia software

publisher, says it will release Pete Townshend Presents Tommy: The Interactive Celebration in Windows and Macintosh versions this spring. No price was announced.

According to a statement issued by the company, the CD-ROM will take users on a non-linear journey through all of Tommy's various versions. The CD-ROM will offer

music, photo images and video clips. The disc also will feature original handwritten notes by Townshend, a variety of "surprise guest celebrity" performances and interviews with The Who's John Entwistle and Roger Daltrey.

## D.C. Targets Net's 'Dirty' Words

If some federal lawmakers have their

way, there will be seven "dirty" words you can't say on the Internet.

Working out differences between House and Senate telecommunications proposals negotiate a reform bill, the legislators took steps to ban seven words and other "indecent" material from the Net.

## Learning Co., SoftKey Set Merger

The Learning Company has scuttled its merger agreement with Broderbund Software Inc. in favor of a deal with SoftKey International Inc.

Under the deal's terms, SoftKey's wholly owned subsidiary, Kidsco Inc., will purchase The Learning Company for approximately \$606 million in cash and common stock.

## Dataquest Sees Silicon Storage

Dataquest is forecasting a shortage of polysilicon — the basic material of computer chips — by the middle or end of 1996.

The market researcher, based in San Jose, California, expects the polysilicon shortage to last nine to 10 months. The shortage should come to an end with the addition of new polysilicon market capacity in 1997, it notes.

Dataquest attributes the pending shortage to the increasing use of 200mm prime and test wafers and the continued growing demand for semiconductors.

## Microsoft's I-Net Strategy Analyzed

Market researcher IDC says Microsoft's new Internet strategy amounts to the firm becoming a part of the Internet community rather than trying to take over the global network and its major technology areas.

IDC notes that the most significant example of Microsoft's attitude is its announced intention to license Sun Microsystems' Java and support a runtime version of Netscape Communication's JavaScript World Wide Web programming tools.

"Microsoft is approaching the Internet with a 'let's join 'em' rather than 'beat 'em' attitude," says Michael Sullivan-Trainor, director of IDC's e-messaging and Internet commerce research programs. "The company is planning to incorporate best of breed Internet capabilities and then extend them with various features, none of which are by themselves powerful enough to give Microsoft a dominant position."

IDC believes that while the plan makes good short-term business sense for Microsoft, the strategy is underwhelming given the resources the company can deploy to address multiple Internet opportunities.

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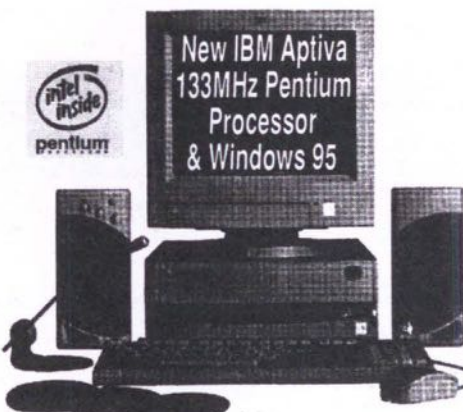
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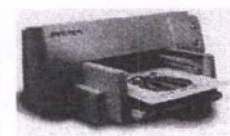
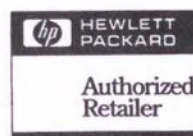
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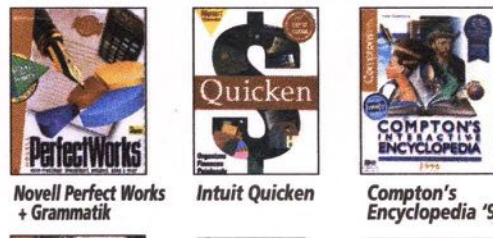


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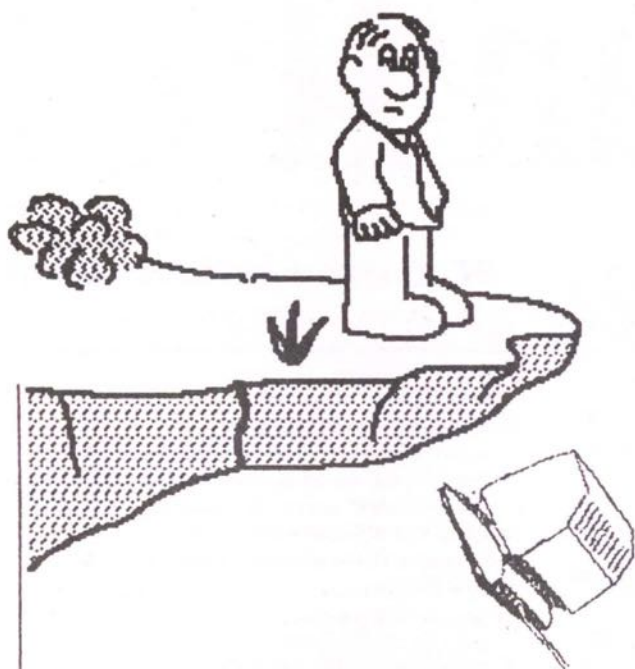
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ing sweetness to their routine. It is really a matter of personal taste. Overall, the program does what it sets out to do, and young children will respond to all the colour and animation.

### The Haunted House

(For ages 3-7)

The Haunted House is based on Jan Pienkowski's pop-up book of the same name. Jan Pienkowski is well-known for his children's books, which have been enjoyed by young readers since the Seventies. This CD-ROM incorporates his off-the-wall illustrations into a beautifully drawn virtual world of bats, cats, rats, and fire-belching furnaces. It is a clever blend of Disney and the hilarious line-drawing cartoons of the New Yorker magazine, with the magic of CD-ROM

animation mixed in. The music is adventurous and dramatic, including clips from Beethoven, Handel, Gilbert and Sullivan, and other classical composers. It is creepy, crawly, and carefully mixed into the actions of the creatures and animals on the screen. The plot is to unlock the basement door, to go down and find the golden key, which will let you out of the house. Along the way, there are several rooms to explore with games to play in each room. The frivolity is fairly light-hearted, in spite of the somber surroundings. While I still maintain that Broderbund Talking Books are unsurpassed in artistic quality, The Haunted House is a noble effort, on behalf of the Philips software writers, to break into this market. And with the number of high-quality children's books to adapt to CD-ROM format, there should be a steady stream of software coming our way for the future, and beyond.

Both games feature the ease of use we can now expect from multimedia programs. In the case of Windows 95, you simply put the disk in the cd-rom drive, and wait one minute. Without touching your keyboard, the game loads, configures itself to your sound setup, and offers you the opening screen on the desktop. Press the space bar, and the game begins, opening up full-screen and boiling with stereo digital sound. Life as it

should be. With Windows 3.x, the setup creates a program group of three icons, stopping only to ask which sound card is being used.

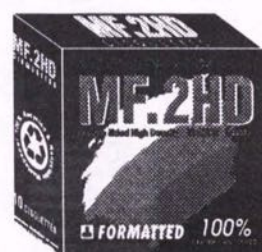
Both of these programs would be well-received in the holiday season. While they generate more interest when new, these programs will be of value for many years among the favorite books and audio tapes in any home. □

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About the author: David Anderson is Vancouver elementary teacher, parent of two children. He can be reached by email: [computer\\_player@mindlink.bc.ca](mailto:computer_player@mindlink.bc.ca)

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## 1995 in review

1995... Five years from now, we may look back at this one  
as the year when it all started to change

By Alan Zisman

### The Year of Windows 95— or Was It?

The year began by waiting for Windows 95. Whether you were a Microsoft fan or Microsoft-basher, a lot of the year was spent

on hold, waiting for what had initially been promised for late '94. Software product releases were delayed, software and hardware purchases were postponed, all in anticipation of the Win-95 debut. At New Years, this

was promised by April— then postponed again until August, finally sprung with full ceremony on August 24th, along with a recycled, early-'80s Rolling Stones jingle— "Start Me Up".

The multi-million dollar publicity campaign, along with the several delays, made this debut almost an anti-climax, and the over 10 million copies sold (including pre-installation on new computers) seemed like a disappointment in light of overly-hyped promises made by some self-proclaimed experts (predictions of 20 million to 70 million copies sold by years end were seen).

Windows 95 is a good product, a big improvement over DOS + Windows 3.1... but it isn't the total Plug and Play productivity solution that some think Microsoft promised. Some of its features are still too complex or non-intuitive (such as the Exchange e-mail center). And after all is said and done, it's just an operating system— not a religion, not a way of life.

Windows 95 (or -96 or -97) will probably become the primary desktop operating system over the next few years... but these years will be one of a slow transition. Tens of millions of computers will continue to run older versions of the operating systems, just as an estimated 70 million computers just run DOS even today. For the next couple of years, smart software (and hardware) developers, will continue to make their products compatible with DOS and Win 3.1, while perhaps including features that will require Windows 95 for full use (as is the case with the new Adobe Pagemaker 6.0).

One of the emerging software trends that Windows 95 demonstrated was the extent to which CD-ROMs had penetrated the market. Microsoft was surprised by how many Win 95 purchasers chose CD over floppy versions; in some places, there was a shortage of CD versions, while the floppy packages cluttered the shelves. It's been pointed out that the early-adopters of Win 95 were likely to be the same people who'd added CD-ROMs onto their computers, but CDs have clearly become vitally important, for games and educational software, but also increasingly for large operating systems and business applications.

Even though it will be several years before Windows 95 fully reaches its potential, Microsoft's operating system competitors will have few opportunities. IBM is withdrawing from the desktop operating system field— choosing instead to focus OS/2 on the corporate market. Apple seems to have missed its chance to broaden the Mac's base through licensed clones... while their customer base remains loyal, their percentage of the growing market is slowly shrinking, outside of the education and graphics/publishing strongholds.

At the high end, Microsoft's NT continued to slowly creep up on both Unix and Novell Netware; while both of these competitors continue to hold the largest share of their respective markets, neither seems able to demonstrate any faith in their own futures. Even Unix's new-found advantage as the natural way to launch an Internet server may prove short-lived.

There was little new and exciting in applications this past year— software developers seemed cautious— waiting for Windows 95, and unwilling to commit themselves to projects that might have to be changed depending on late-breaking news. (Developers, perhaps, were remembering what happened in the late '80s, when many developed for OS/2, only to

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be caught unprepared for the popularity of Windows 3.0). Even the first generation of Win 95 products seemed cautious—even from Microsoft, products like Office 95 offered evolutionary improvements over the previous generation, but no 'must-have' applications have yet been unveiled.

Instead of innovation, most of the software news in 1995 was in the area of high finance. Merger-mania continued, highlighted by IBM's purchase of Lotus, but also with California's Symantec buying Canada's Delrina. And the opposite happened at year's end, with Novell backing out of its purchase of Word Perfect (and UnixWare), to concentrate on its key networking business.

## Gizmos and Gadgets—at a Price

PC hardware developments offered a bit more. 1995 first saw rapidly plummeting hard drive prices, making 800 meg-1 gig hard drives the norm in new business systems. By summer, Pentium CPUs outsold 486s, with the later promising to virtually disappear, at least from new desktop systems by early 1996. Intel's next generation Pentium-Pro (formerly the P6) will be a harder sell, however. Designed for a true 32-bit operating system, it produces minimal performance improvements on hybrid 16-bit/32-bit software including both Windows 3.1 and Win 95. As a result, competitors to Intel, such as AMD and Cyrix have a chance to increase their

share of the CPU market in the next year.

A big disappointment this year, however, has been the Apple-Motorola-IBM Power PC alliance. Aside from the successful Power Mac line, the alliance has been unable to bring a credible version of their CPU to market. If they cannot make inroads into the Windows/Intel market in 1996, the alliance may have missed their chance for broad acceptance.

RAM prices remained relatively high, however, and combined with users' need for more ram, drove up the average price of computer systems. Where in 1993 and 1994, users could buy an average home system for under \$2000, systems now cost \$2500-3000. These provide more—a faster, more powerful CPU, a larger hard drive, more ram, and more often, CD-ROM and sound built-in, but it does make it harder for some potential buyers to get into the market. With continued ram-hungry operating systems and applications, don't expect prices to drop any time soon.

Several hardware trends all featured increased performance and ease of use—particularly for PC owners. Modems running at the now standardized 28.8 kbs V.34 became increasingly affordable... and will likely remain the standard for the next several years, as they represent the limit to what can be sent over copper telephone lines. Higher speed ISDN and cable alternatives will show up, but will take several years to become standardized and inexpensive.

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8MB 70ns RAM  
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Trident PCI 9440 graphics card with 1 MB DARM  
14" 1024x768 N.L. LR. 0.28dp  
13" Mini-tower case with 200W  
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101 Enhanced keyboard  
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Daytek 15" Supper Fine .25	\$445/468
SONY 15" Supper Fine .25	\$685
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SoundBlaster 16 SCSI-2/ASP	\$185/268
Creative Multimedia Home 4X	\$548
Panasonic CR562B 2X/4X Int	\$79/179
NEC 6xi MultiSpin CDR-501/502 Int	\$585/659
SONY 77E 4X EIDE/76E4XSCSI	\$185/268
Toshiba 5302B 4x EIDE Int	\$195

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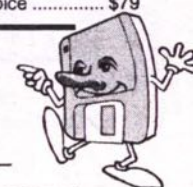
GVC 14.4 Fax/Voice Int/Ext	\$130/150
GVC 28.8 Fax V.34 Int/Ext	\$239/269
USR 14.4V Si V4.2bis Fax Int/Ext	\$79/99
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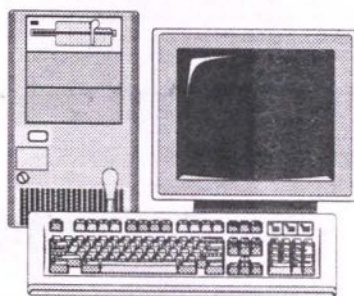
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- 850MB HD, 1.44MB Floppy Drive
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The awkward PCMCIA acronym disappeared, being replaced with the easier to remember PC Cards, which this year, finally became a reasonably standardized and easy to use way to work with portable computers. And portable computers themselves became almost a commodity item—making up over 25% of all computers sold in 1995, they became almost as powerful as the average desktop unit, though still at a price premium of 40% or more.

New devices using PC parallel or serial ports made it more possible to add hardware to a PC without having to open the case or fuss with mysterious IRQ and DMA settings. Combined with Plug and Play features in Windows 95 (and new computer BIOSs), these finally made it possible to imagine a PC being as easy to configure as a Mac.

New hardware product categories included low-cost page scanners, complete with OCR software promising an end to office paper mess, and multifunction units, combining printer, scanner, and plain-paper fax into an affordable solution for many small offices. Low cost tape drives, featuring 800 meg Travan tapes, offer back-up hopes even with today's larger hard disks. And high capacity removable disks, especially Iomega's 100 meg ZIP drive, continually out-sold supply. The same promises to be true with next year's model—Iomega's 1 gig Jaz drive.

And of course, CD-ROMs and multimedia extended their reach—now about half of all computers sold for the home market include these features, as do an increasing (though still minority) of the computers sold to the business market. Increasingly, the home market is being driven by the needs of game players, and that includes a fast CPU, lots of RAM, and a fast CD-ROM and good sound.

Look to next year for the new wave of CD-ROMs... at year's end, a new format was agreed upon, promising multi-gigabytes of data per disk (compared to about 600 megs right now), along with more easily writable disks. Of course, these new disks will be incompatible with the current generation of hardware, making for a combination of problems, and a new upgrade opportunity.

#### The big news in 1995 was the Internet...

More and more users, more and more Web pages. Internet Service Providers advertising on billboards along streets in Vancouver. What's happening this week on the Web appearing alongside TV listings in the newspaper. The newspaper itself appearing on the Web.

At the same time, concerns about whether financial transactions on the Web would be secure. And concerns about bandwidth—whether the Internet would collapse under the weight of increased use and increased expectations. My predictions? The days of unmetered Internet access are limited—right now, I can read

Time Magazine for free every Monday on the Web, where the complete text appears sooner than copies reach subscribers. Clearly, as soon as Time can find a way to bill for the service, they will. Similarly, it is only a matter of time before users get billed for e-mail... right now, it costs virtually the same to send one e-mail message as to send 5000 copies... and the same to send a message to a user on the same system as in Australia. enjoy it-- it won't last.

The hot technology currently being touted is Hot Java, a programming language from Sun. Currently, Web sites are passive—users read information, look at graphics, maybe fill in a form. Java enables Web sites to become interactive; Web servers can house Java applications that can run on any computer that's logged in, regardless of platform. The speculation is that could make operating systems and platforms irrelevant, as anyone could log into a Web site, and run the same applications.

Sun, Oracle, and other big companies are currently discussing the prospect of a \$500 Internet connection computer—a minimal machine, that will run Java applications from Web servers. But the big problem is bandwidth again, and transmission speed. None of this is practical as long as you and I have to rely on modems and phone lines to access the Net. Cable modems? Fibre optics? Wide Area Networking? Not yet, I'm afraid.

Despite this, Internet browser company Netscape is being hyped as the next big thing—the Microsoft of the next ten years, if you will... Maybe, but not right away. Despite their wildly successful stock offering this past Fall, they remain a company with miniscule sales, and according to founder James Clark, if they turn a profit next year, it will be by accident.

Personally, I consider the Internet wildly over-hyped, and suspect that we'll see the beginnings of a reaction in the next year, as users (as with Win 95) find a gap between the hype and the reality. Another shakedown is looming as the big cable and phone companies make a move on the currently lucrative, but primarily local Internet Service Provider market.

Despite all this uncertainty, the Internet remains an important emerging frontier for computing. It is quite possible that we won't see much in the way of innovation for stand-alone personal computers... there's only so much that can be done with word processing or spreadsheets, after all. The Internet is where the action is going to be for the next while—but don't expect that problems with security and bandwidth will be solved any time soon. □

#### HAPPY COMPUTING IN 1996!

About the author: *Alan Zisman* is a teacher and an associate editor of *Computer Player*, he can be reached by e-mail [alan\\_zisman@computer-player.com](mailto:alan_zisman@computer-player.com)





# V-COM Offers "The Vision Wall."

## A Great Way To Compare Monitors

If you really want to see the difference between monitors you can't go wrong with V-COM's Vision Wall, The ultimate showdown.

Buying your dream computer with a poor monitor is like buying the ultimate stereo and connecting it to your kitchen radio's speakers.

Before buying, we usually cover the bases. 1st Base: A fast enough processor 2nd Base: Enough memory. 3rd Base: A good solid video card.

But to truly hit a home run, consider the monitor. Let's face it, you will be staring at this item for the rest of your natural computing life and it's your only window into your system performance.

### Seeing Is Believing

Use a great monitor once...and you'll never want to return to average page layouts, spreadsheets, presentations and graphics.

With the right monitor we can expect crystalline text, vibrant reach-out-and-touch graphics, and razor sharp color contrast.

V-COM Computers has provided this short guide to the terms used in monitor descriptions.

We'll briefly touch on the techno-babble regarding Resolution, Dot Pitch, Non Interlace and more wonderful terms such as Pixels. But if you are like me... I want

to know if I can SEE IT, and if I CAN'T, I'm not paying more. And if I can...Show Me.

V-COM Computers, on the corner of Marine Drive and Kerr in Vancouver is a great place to do the comparison. The large computer retailer, has a magnificent VISION WALL. One computer is driving 8 different monitors of varying sizes, makes and models. To do a true comparison, this is the only way to go. Here are some of Terms, a brief Explanation, and the

"Can I See It" 5 Star Rating

**14" NI, .28DP, 1024 x 768**

**14"** This refers to the tube size, just like your television. I was astounded at the difference between a 14", 15" and 17". **Can I See It Rating \*\*\*\*\***

**.28DP (Dot Pitch)** A picture display is made up of thousands of dots of lights (pixels). The distance the pixels are apart from each other will determine how clear the image is. The shorter the distance the better. (.28DP is better than .39 or .42.)

**Can I See It Rating \*\*\*\*\***

**NI (Non Interlaced)** Non Interlaced is Good / Interlaced is Bad. All monitors have a flicker rate (like a light going on and off very fast). When you increase the resolution (the picture detail) the flicker becomes more visible. Non Interlaced means that the frequency of the flicker is very difficult to see. Interlaced is easy to see and annoying. The better the monitor, the higher the resolution that can be used in Non Interlaced Mode.

**Can I See It Rating \*\*\***

**1024 x 768** This refers to the Resolution. This is the maximum picture detail that the monitor can support. When you are at V-COM ask the consultant to change the resolutions for you so you can see the difference. The higher the resolution the smaller the image and, therefore, the more can fit on the screen viewing area. Make sure that the maximum resolution that is quoted to you is in Non Interlaced Mode.

**Can I See It Rating \*\*\*\*\***

V-COM's consultants are a great help in showing the customer each of the differences in easy to understand, real life language. (no techno-babble). After a 20

minute demo you'll leave V-COM educated, informed, and confident in your purchase.

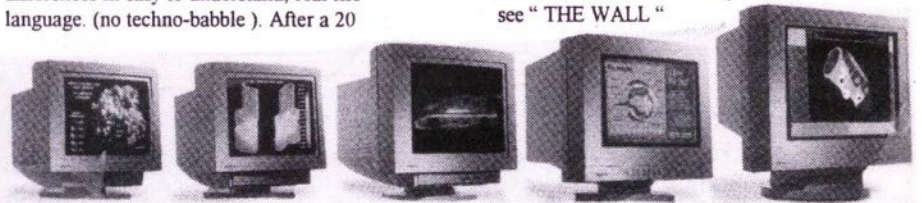
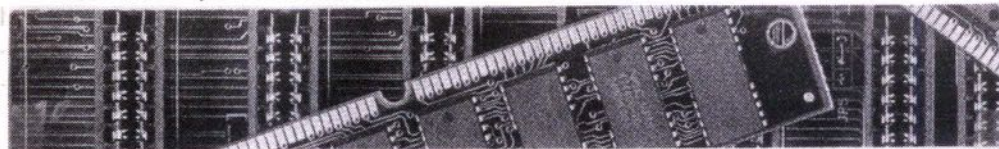
Buying a monitor is like buying a TV. When all the models are up on a display wall you can see, clearly, which brand is sharpest, brighter, and has the right color mix for your taste.

Considering a new system is going to cost you a couple of thousand dollars, the extra \$100.00 or \$200.00 for an outstanding display is one of the best investments that you can make.

When going out in the wild world of computer buying...V-COM Computers should be at the top of your list.

V-COM's retail layout is ideal for the consultant based approach required to put together the perfect PC comparison. A large spacious showroom area, a sound and site room to compare speakers and monitors, sit down - hands on display models of the PCs and comfortable consultant stations. The consultant based, solution sales approach is hard to find out there, yet when you find it...It can't be beat.

Make the trip to V-COM, and just tell one of the consultants that you're there to see "THE WALL"



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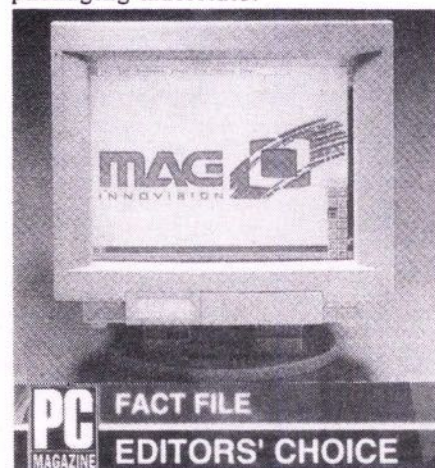
It's no wonder that the MAG Innovision 15" and 17" F Series Monitors have tied for this month's V-COM Product of the month.



Get ready for an explosive visual experience. The F Series offers brilliance, color and contrast, from corner to corner, other monitors just can't match.

The F Series features microprocessor-based digital controls for superior compatibility and flexibility. Every MAG Innovision Monitor must also meet the Green Energy Standard, which includes EPA Energy Star Compliant Power Management,

SWEDAC MPRII Low Emission Standards, No CFCs used in manufacturing, and recyclable packaging materials.



To ensure that if you choose an F Series Mag Monitor you'll enjoy it for years to come, V-COM Computers offers a manufacturer backed 3 Year Limited Warranty.

With Windows 95 Compatibility, The F Series offers you advanced technology with uncompromised performance standards.



DX15F

### 15" Multi-Frequency Color Monitor

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DX17F

### 17" Multi-Frequency Color Monitor

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## PC Cards...

### The Little Cards That Could

**Alan Zisman**

What's 8.64 mm by 56 mm and lets you do almost anything you want? If you answered "an American Express Card" you're probably watching too much TV... but if you answered a PC Card in a portable computer, you're right on the money.

Portable computers are great— but up until recently, they had a big disadvantage compared to their desk-bound counterparts. Desktop PCs are expandable, you see. You want to add a sound card? A network connection? A modem? A CD-ROM? No problem. At worst, you'll have to open the case, and pop an interface card into an unused slot. (Well, actually, at worst, you've got a whole mess of incompatibilities involving techie topics like IRQ and DMA settings, but we'll leave those for some other article).

Portables, you see, have no slots. And that has meant something between limited and no expandability. If you couldn't plug it into

the parallel or serial ports in the back, forget it. Maybe your portable has a long skinny plug for a docking station or a port replicator, but does anyone actually use one of those? And even if you did— what is good is that when your portable goes out of the office... and that's the whole idea of portables!

Take modems, for example. A modem can be a very useful tool to anyone traveling with a portable computer— even just as far as from the office to home and back. Portable manufacturers used to be very happy to sell built-in modems for their models— overpriced 2400 bps modems, sold to a captive market, that is— with each computer model needing a different model modem. But what were the alternatives? Carry a bulky external modem? Buy an equally overpriced mini-modem? Lacking any sort of standards for portable computers, users often simply did without.

### PCMCIA To The Rescue

Starting in 1989, the Personal Computer Memory Card International Association tried

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- \* Intel Pentium® Processor
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- \* PCI Enhanced HD/FD Controller
- \* 2 serial, 1 Parallel, 1 Game port
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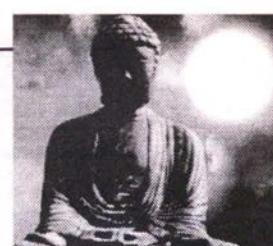
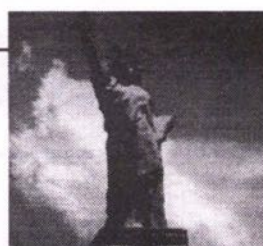
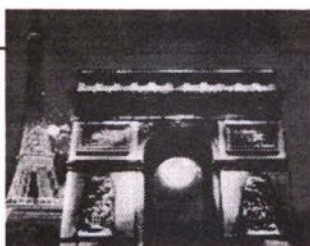
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to create a standard, and also, at the same time, a hard-to-remember acronym. At first, the PCMCIA cards were limited to memory cards (as the association's name suggests), and at first, they represented a standard that wasn't, as early models were plagued with incompatibilities. Slowly, the standards have been tightened, and now extend to a wide range of hardware, and to the software needed to allow it to run.

Renamed simply PC cards, there are now three standard sizes. Type I cards are the thinnest—up to 3.3 mm thick. Most of these remain memory cards. Type II sockets can hold two Type I cards or a single 5.5 mm Type II card. These are the most common—modems, Ethernet network adapters, SCSI cards, even sound cards can be found in this format. 10.5 mm Type III cards are mostly hard drives. A Type III socket can hold a Type II and a Type I card, or up to three Type I cards. Finally, Toshiba has created an even thicker Type IV socket—but this is not yet a widely-supported standard.

Software drivers—so-called Card and Socket Services (C&SS) need to be loaded, to let your computer know about the existence of your PC cards. Under DOS and Windows 3.x, these drivers require RAM—60 kb or so for each card loaded. While these drivers can be loaded high, this can cause problems running some programs—especially if you need to load multiple drivers.

Advanced Operating Systems To The Rescue!

OS/2 Warp and Windows 95 don't have these problems. Both operating systems have support for PC cards built in. Windows 95, for example, does away with needing drivers for these cards in CONFIG.SYS or AUTOEXEC.BAT—if installation notices a PC card slot, an icon will appear in Control Panel. It's a simple matter to turn on support for PC cards.

And once support is turned on, Win 95 supports hot swapping—adding or removing cards while the computer is up and running. Add a card for the first time, and the computer will take a few seconds to identify it. If it's new, it will inform you that it is loading drivers (you may be asked to insert one of your Win 95 floppies)... then a PC card icon pops up on the TaskBar, and you're in business. Plug and Play like it's supposed to be. And sheer magic if you've wrestled with installing cards in standard, desktop PCs, under DOS or Windows.

While Warp doesn't call it Plug and Play, it also has solid working built-in card services.

You should be aware, however, that while using Warp or Win 95 really makes the use of PC Cards much more convenient, either really requires at least 8 megs of RAM to run well—and most portables are still being sold with only 4 megs. And just as they can't use standard expansion cards, most portables require special, and pricier RAM... I wouldn't recommend four megs on any new computer purchase—portable or desktop.



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## What Can Fit on a Card?

Considering the small size of a PC card (literally about the same size as that American Express card, but a bit thicker), it's amazing what can be squeezed into the thin metal case. I don't recommend cutting one open to peek inside, but if you did, you might see RAM chips, digital signal processors, and other standard chips—all neatly soldered onto two sides of a thin board. In fact, everything you need for a standard adapter card... just forced into a smaller case.

This miniaturization inevitably results in somewhat higher prices than for their larger equivalents, but as the portable market expands (it's currently 1/4 of the entire market for personal computers, and rising), the prices of PC Cards is also dropping. A 14.4 kbs PC Card modem may cost \$200-250, compared to about half that for a standard modem, while a faster 28.8 modem may cost \$400-500 on a PC Card, compared to \$250-400 for its larger cousin.

PC Card modems seem the most common of the mini add-ons, with a range of models at both the 14.4 kbs and 28.8 kbs speeds. All have fax capabilities, and all seem to offer fairly similar capabilities—performing virtually identically to larger models with the same rated speeds. The biggest difference lies in how to attach the phone jack. Some models, such as Megahertz's X-Jack models, sport an actual phone jack—inset in the PC

Card's metal shell. Press on the end, and the X-Jack pops out, ready to accept a standard phone cord. This is a convenient arrangement, allowing users to use any phone cord. It can't be lost, but it can break off. Several other models prefer to include special phone cords, which plug into the end of the PC Card... these may be more sturdy, but if you forget or lose the cord, the modem is unusable.

Modems aren't the only use for these versatile cards—almost anything that can be plugged into a standard ISA jack can be miniaturized onto a PC Card. Currently, you can buy SCSI adapters from several manufacturers. This allows you to connect a wide range of external SCSI devices, from hard drives to scanners to tape backup to CD-ROM. Or maybe you'd prefer a sound card. Ethernet networking cards come with your choice of 10-base-T or 10-base-2 connectors. Hard drives, up to 170 megs have been squeezed into a fat Type III card. There's even a video capture board on a card.

Increasingly popular are multifunction cards. These integrate several cards in one. Combining an Ethernet adapter and a modem into a single card is an example of this.

## Coming Right Up

PC Cards are handy. So handy, in fact, that they may migrate from portables to desktop computers. IBM's PC 300 desktop models already include Card slots, and several compa-

nies market adapters letting users add PC Cards to any desktop computer. With this, you could use a single, shirt-pocket sized modem on all the machines that you work with.

Currently, the PC Card standard is a 16-bit, 6 MHz adapter—sort of like a slow, ISA slot on a desktop PC. A new standard is evolving, however. Called CardBus, it will allow 32-bit operation, at speeds ranging from 20 to 33 MHz. Sort of the local-bus standard for the next generation of PC Cards.

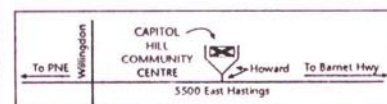
So we can soon expect increasingly fast and powerful PC Cards, as well as more and more devices crammed onto a single card—look for the all-in-one modem, network adapter, SCSI card, combined with sound card featuring microphone input and speaker outputs. Wonder where all those plugs are going to go?

PC Cards have outgrown a somewhat awkward adolescence. They now greatly extend the usefulness of our portable computers, making it much more possible for these tiny machines to almost entirely replace the big, lumbering desktop models. Expect to see them popping up wherever people take their computers—from the office to home, on the road, even on vacation. □

About the author: *Alan Zisman is a teacher and an associate editor of Computer Player, he can be reached at e-mail at alan\_zisman@computer-player.com*

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## Database Developments

# Visual Basic 4.0

By John Hamm

### General Introduction

Microsoft has finally released the long-awaited upgrade to Visual Basic

3.0, its hugely successful programming system that revolutionized the way Windows computer programs are written.

Visual Basic is not specifically designed as a database application development tool, it is a general purpose Windows programming language, but data connectivity is a built-in feature.

Visual Basic's built-in database functions are provided by Microsoft's Jet database engine. This is the same database engine used by Microsoft Access. The Jet database engine is supplied

in two versions, Version 2.5 for 16-bit (Windows 3.1) applications and Version 3.0 for 32-bit (Windows 95 and Windows NT) applications.

### Three Editions

Visual Basic 4.0 comes in three editions, Standard, Professional and Enterprise.

The Standard Edition is a fine platform for beginning programmers but we cannot recommend it for database application development work. It lacks the documentation and programming features necessary for serious database work.

The Professional Edition will cost \$300-\$400 more than the Standard Edition. We highly recommend this product for both beginning and advanced database application developers. The documentation is some of the best we've seen and early reports confirm that this upgrade has finally added robustness and speed - elements missing from version 3.0.

The Professional Edition is required for programmable access to the database functions.

For an additional \$500, the Enterprise Edition has all the features of the Professional Edition and includes supplementary database features specifically designed to allow developers to create client/server applications. It also includes Microsoft Visual SourceSafe, a group project-oriented version control system.

### Documentation

The Standard Edition ships with the excellent 850 page **Programmer's Guide**. The **Language Reference** and the **Professional Features** books are only available with the Professional or Enterprise Editions. Since we are not recommending the Standard Edition for database development there is no need to comment on the lack of documentation for this edition.

The documentation supplied with the Professional Edition is superb. The **Language Reference** is over 1000 pages long and provides excellent programming examples for every function, method and property. The online help system duplicates this book and therefore all these examples may be cut and pasted into your own forms and modules.

The Professional Features book is another massive effort combining three books under a single cover. These are **Creating OLE Servers**, the **Guide to Data Access Objects**, and the **Custom Control Reference**. The **Guide to Data Access Objects** is well presented and particularly important to the database application developer.

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## Visual Basic Applications Edition

The underlying programming language in this version has changed to Visual Basic Applications Edition, version 2.0. This is the same language that is built-in to the latest versions of the applications of the Microsoft Office suite including Excel, Project and, yes, Access 95. This has resulted in many minor changes to the language. This could cause some irritation to users of earlier versions but overall the change is for the better. It had to be done sooner or later and the changes are really quite few.

## Data Access Object

The Data Access Object programming interface has been simplified and greatly improved over earlier versions. For example, the Table, Dynaset, and Snapshot objects have been replaced by the single Recordset object which includes the Table, Dynaset, and Snapshot as types. The new object hierarchy is a more logical structure and generally easier to use.

Rushmore optimization, purchased several years ago along with Fox Software, has finally been added to many types of queries to speed up results.

## Database Replication

This feature is fairly new to desktop databases. It allows remote users to keep their data in synch with a master copy. Replication can have many uses, one might be simply to keep the home and the laptop versions of a database in synch with the office version. This would include updating the office version, where necessary, with changes made at one of the other computers.

Here is database replication as defined by Microsoft:

"Database replication is the process of copying a database so that two or more copies stay synchronized in terms

of data and objects. Each copy of the database is called a replica, and each contains an identical set of tables, queries, forms, reports, macros, and modules. Replicas that belong to the same replica set can exchange updates of data or replicated objects. This exchange is called synchronization."

## What's Missing?

This product, particularly the Professional Edition, is a very nearly a complete package. The only thing missing is a true compiler. The blinding speed that users love but rarely see in Windows applications is only

attainable in compiled code. Borland's Delphi is still the only product which can deliver in this respect.

## Visual Basic versus Delphi

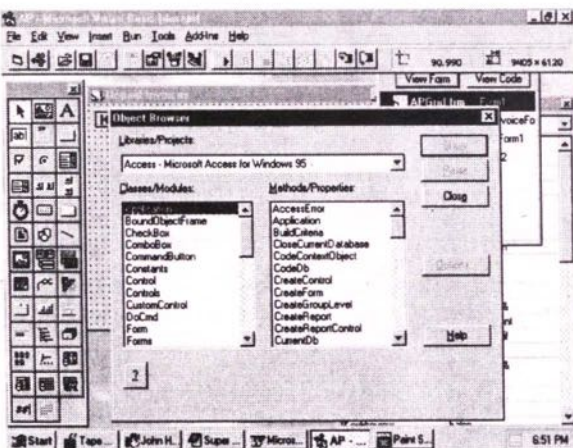
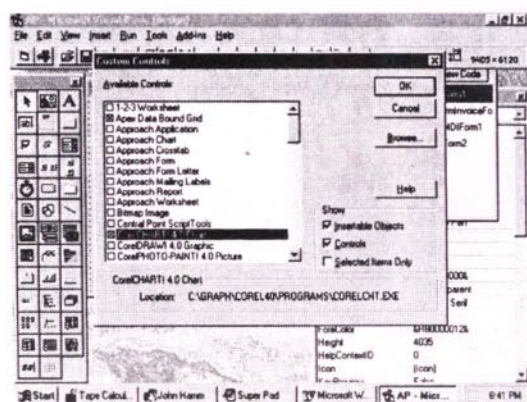
While Visual Basic 4.0 doesn't have a true compiler, it is here now and Delphi for Windows 95 is not. Visual Basic has leap-frogged Delphi in many respects such as OCX technology, database replication, and now with the improvements to the robustness, speed, and ease of use of the Jet database engine it makes a good candidate for the database front-end of choice.

## Visual Basic and Access for Windows 95

The Visual Basic .mdb data file format is so extremely convenient. One file contains the all the data tables and indexes as well as all the query definitions and many other types of objects.

This is the same .mdb file format that Access uses. Access and Visual Basic make a near unbeatable pair. Access can help the developer with data verification and is handy for such

things as quickly generating the syntax for complicated SQL queries and performing quick and dirty data table restructuring and field definition.



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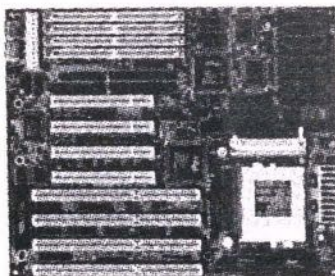


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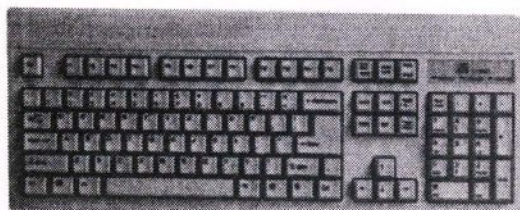
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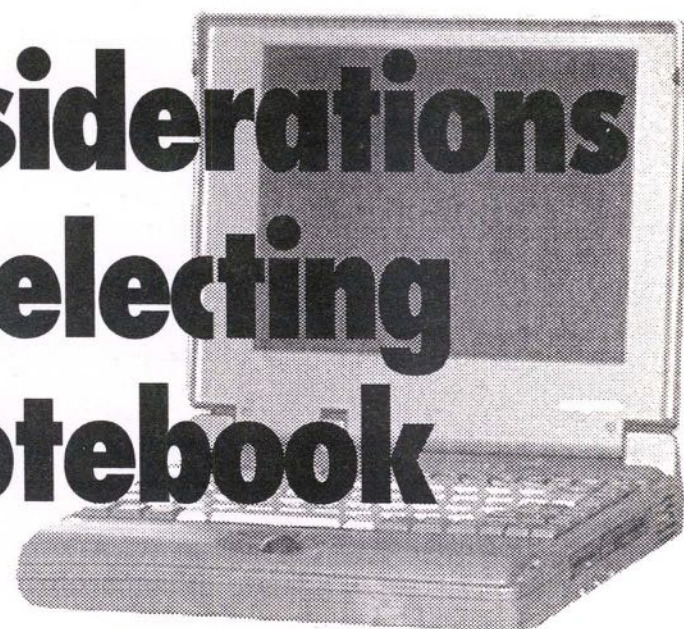
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# Considerations on Selecting a Notebook



**Michael Whitfield**

**N**otebooks - some people don't know what a 'notebook' is or what it can do. A notebook is what most people call a 'laptop', the term 'notebook' came about as it was about the same size as an 8.5" x 11" notebook.

Today, a notebook can replace desktops in virtually all applications. Personally, I use a notebook for everything including photographic manipulation, 3D animation, and wouldn't trade it for any desktop. When you're looking to buy a notebook, there are a few things you should know besides the price and brand name.

## FRESH NOTEBOOKS

### Bondwell Pentium Notebook

3D Microcomputers introduces 2 Bondwell Pro notebooks. The systems are priced from \$3188.00 for the Bondwell Pro 575 to \$3588.00 for the Bondwell Pro 590.



The Bondwell Pro notebooks are available with 530 megabytes to 1.3 gigabytes of storage space. Processor options available include Intel Pentium 75 Mhz & 90 MHz processors. All units are shipped standard with an Intel Pentium processor, 8 MB RAM, 16 bit sound card, PCMCIA Type II & III slots, Track ball pointing device, 1MB local bus video, Rechargeable NiMH battery, carrying bag & car cigarette adapter.

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## PROCESSOR

Most notebooks today (with the exception of most brand name products) are capable of using CPU's found in desktops. Most entry level notebooks use custom CPU socket mounts or surface mounted technology. Proprietary CPU's require special daughter boards that have limited availability and a higher cost. A surface mounted CPU cannot be upgraded to comply with newer technology. Limited expandability and expensive proprietary modules have marred the perception of notebooks. An upgradeable CPU (PGA type socket) and removable CPU lets the user upgrade as newer processors are developed. CPU prices are constantly fluctuating up and down, long term CPU prices always (unless in shortage) drop significantly.

### FRESH NOTEBOOKS

#### MegaImage introduces the MegaBook 770 and the new Pentium MegaBook 880

The MegaBook 770 multimedia notebook was designed to run today's most demanding multimedia applications. Available in 10.4" TFT active or STN passive LCD colour screens, the MegaBook utilizes 1MB of local bus video and provides simultaneous video display on both the LCD and any external device. This notebook offers optional processing power with the Intel DX4/100 microprocessor, storage (featuring 540MB, 810MB or 1.3GB removable hard drives) and expandability (from 4MB to 36MB).

Additional features include 2 PCMCIA Type II slots or 1 PCMCIA Type II and 1 PCMCIA Type II slot, a CableMaster II port, external monitor hook-up, an external Keyboard or PS/2 mouse/port and when fully loaded weighs only 6.4 lbs.

MegaImage has just announced the Pentium MegaBook 880. Offering all of the same great features as the MegaBook 770, the 880 model has been enhanced with the latest technology. The MegaBook 880 features an Intel Pentium 75, 90 or 100mhz microprocessor, 8MB of RAM (expandable to 40MB), an infrared port, Microsoft Windows 95, an 810MB removable hard drive (expandable to 1.3GB) and is available in a 10.4" TFT or DSTN LCD display.

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## MEMORY

As notebook manufacturers strive for smaller and lighter solutions, space is limited. Standard RAM modules are bulky and require a lot of room; as a result manufacturers have to develop special memory boards that use less space. There are a small number of manufacturers of SIMM modules found in 386

or 486 desktop systems. Standardizing memory has many advantages to both the user and reseller; some are turning to PCMCIA memory cards, but they lack speed, cost effectiveness and memory accessibility (since most are virtual memory and not true DRAM). There is hope though, Hitachi has developed a standard 64-bit DIMM memory module for notebooks. The DIMM module, al-

though new to the market, will have a significant impact on sales of notebooks as pricing drops and capacities increase.

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with the 3.5". Applications today not only require more memory, but large amounts of storage space as well. Three years ago a 40MB HDD was sufficient for most users, today it is a 520MB HDD (or larger). Disk space is a growing concern for many experienced users, and the need for upgradeability is high. Many notebooks ship with a 260MB HDD, which store fewer of today's programs and frustrate

users who must pay premium prices to third party companies for installing larger HDDs which may void the warranty. Fortunately, most reputable manufacturers allow for upgradeability, but many require a proprietary casing that increases the cost by as much as 300%.

There are additional solutions, such as external or PCMCIA hard drives that are available in many capacities. Many

#### FRESH NOTEBOOKS

#### IPC Notebook Launched in the Canadian Market

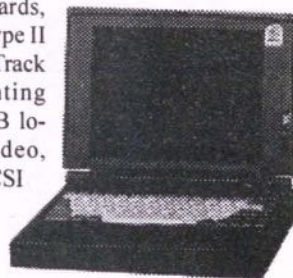
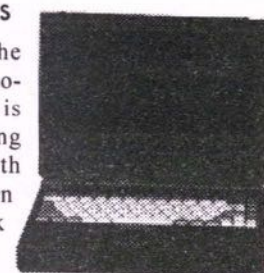
3D Microcomputers announces the introduction of 6 IPC NB/OS notebooks. The systems are priced ranging from the IPC 575 at \$2999.00 to the IPC 5100t at \$3900.00. All units are shipped standard with an Intel Pentium CPU, 8MB RAM, 16-bit sound cards, PCMCIA Type II & III slots, Track Stick pointing device, 1MB local bus video, External SCSI Port, Rechargeable NiMH battery, carrying bag, car cigarette adapter.

Contact 3D Microcomputers at (905) 472-8822.

#### GVC tries its hand with notebooks

GVC, the well known modem maker, is now offering notebooks with the GVC Green 740 Notebook series. There are 3 models and offer the following features, approx. 6 lbs, CPU and LCD upgradability, removable HD and floppy. Options include 16-bit stereo sound system or battery, trackball or stick pointer, PC Card slots - 2 Type II or 1 Type III, exchangeable keyboard for other languages, Advanced Power Management for long battery life. RAM is 4MB expandable to 20MB. Power Management features include normal, doze, sleep and suspend.

Gentek Marketing 905-738-9300



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#### Specials

**Toshiba 2130C (Color), 8MB RAM, 540MB HDD \$2995 (Free Burglar Alarm!)**

**Zenith Notebooks (Color), 75mHz, 540MB HDD \$2395**

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external media devices connect via the parallel port. To get the fastest transfer rate, the notebook should have an ECP compatible parallel port; a standard port only transfers 150kb/s and an EPP (enhanced parallel port) transfers 300kb/s. ECP is designed for external devices and may transfer at 1,000kb/s.

## DISPLAY

Currently there are three basic screen types for notebooks: Monochrome Cathode Cadmium Florescent Tube (CCFT), Dual Scan Passive Triple twist Pneumatic (DSTN), and a Thin Film Transistor (TFT) active matrix screens. LCD screens don't generate dangerous magnetic fields found with all CRT monitors. Even low radiation models produce radiation levels that are unhealthy with prolonged use.

Most users are familiar with monochrome CCFT backlit screens which have 16 to 64 grayscales. Although the display itself is only capable of show-

## Display Types:

**TN LCD** (Twisted Nematic Liquid Crystal Display) are made up of Polarizing Filters and Liquid Crystals, that twist 90 degrees. Twisting the crystals lets the light pass through the filters, untwisting the crystals allows the polarizers to block light. This is a low cost solution and is easy to manufacture, the problem is it does not work with passively driven screens with high multiplexing rates (lots of rows), low contrast, and the colors may bleed. To overcome the problem with high multiplexing rates, the STN solution was inspired by Dwight Berremen (AT&T) Scheffer & Nehring of Brown Boveri.

**STN LCD** (Super Twisted Nematic Liquid Crystal Display) are made up of crystals that twist 180-270 degrees that use twisted crystals as a light frequency "retarder". The STN LCD has a much steeper slope to the transmission/voltage curve, resulting in a much greater contrast on high multiplex displays.

**Single Scan** 1/480 duty cycle (scans 480 rows per cycle), poor contrast and slow response. 300ms refresh rate.

**Dual scan** 1/240 duty cycle (scans 1-240 and 241-480 simultaneously per cycle), fast response and good contrast. 150ms refresh rate which is

good for static images or slow moving video (8 frames per second).

Nits: are the measurement of light from the display. The higher the nits the brighter the screen (average 85-100 Nits), need 210 Nits to work in direct sun light. The problem is the higher the nits the greater the power drain drastically reducing battery life and increasing cost. The trade is a paradox since users who need to use the displays outside also need better battery life.

Dual scan is available in mono and color displays, Dual Scan is not just color screens. Although DSTN color is accepted as a color display the correct terminology is CSTN or Color Super Twisted Nematic.

The lighting mechanism may also differ between displays, single tube and dual tube displays. A dual tube is a higher cost but will provide better brightness at a reduce battery life.

**TFT active or Thin Film Transistor displays** (active matrix) are the best display on the market currently, providing the highest contrast ratio and faster refresh 80ms. Which is great for most video (16 frames per second).

A new active display is being developed called ASM, this display will offer a true high speed video or 32 frames per second and higher nits for better brightness.

ing grayscales, the notebooks can display color on external monitors. Most manufacturers are no longer producing notebooks with monochrome displays.

Color passive screens have had many improvements since the Single Scan Passive Matrix came out and now approach the brilliance of active matrix screens. Dual Scan screens redraw in two different directions simultaneously, producing a faster refresh and clearer picture. A faint horizontal line in the middle of the screen, caused by the dual scan process, will be apparent until the display warms up. The Triple twist Pneumatic is a better Dual Scan screen. DSTN screens have large viewing areas and greater contrast, which is better than other Dual Scan screens. DSTN screens are approaching

the clarity of active matrix displays and it is sometimes difficult to distinguish screen type when viewing a static image directly, but DSTN still does not have a fast enough refresh to display a smooth moving image.

The best display screen is the TFT active matrix screen. It has a perfect edge-to-edge picture and no focus variations give a clear and sharp image that is better than most VGA monitors. A fast refresh allows for easy cursor tracking and for viewing kinetic images such as video. TFT screens are made up of 307,200 transistors, each with its own RGB and light source. Active matrix have superior display quality, but also have higher power drain as the computer must drive each of the transistors sepa-

## FRESH NOTEBOOKS

### Cyrix based notebooks from CTX at 486 prices

CTX, a supplier of color monitors and notebooks introduces Cyrix processor based notebooks. There are two models: the Ez500T, using the Cyrix 5x86-100 MHz processor and the Ez520T using the Cyrix 5x86-120 MHz processor.

The new EzBook 5x86 series notebook computers offer higher performance than the 486 DX4/100 based models but are comparably priced. Estimated street prices beginning at \$2,699.

The new notebooks provide write-back cache support to perform higher CPU benchmarks, along with 8 MB RAM expandable to 32MB and an 810MB HD plus many other highly advanced features.

The EzBook 5x86 notebooks have 10.4" diagonal TFT active matrix color displays that support 640 x 480 resolutions, and can display 262,000 colors. When attached to an external monitor, EzBooks can display 1024 x 768 resolution at 256 colors.

A slide out allows users to swap drives easily. It also features built-in Sound Blaster Pro-compatible 16-bit stereo sound card along with a built-in speaker and mic, 3.5" 1.44MB internal floppy drive, 2 PCMCIA slots (one Type II and one Type III), EzGlide touch pad pointing device. EzBooks come with Windows 95 and a carrying case. Options include PCMCIA 2x CD-ROM drive (\$299 SRP), PCMCIA fax/modem and Ethernet card.

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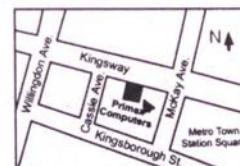
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### FRESH NOTEBOOKS

#### Ultinet PVT/M Pentium Notebook

Specs: 75 or 90MHz Pentium processor, VESA local bus video and 32-bit removable HD, multimedia notebook, 8MB RAM expandable to 40MB, built-in floppy, 640 x 480 DSTN color 9.4" or 10.3" 256 colors, TFT color 9.4" 256 colors, built-in speaker and mic, 16-bit

sound, Sound Blaster compatible, PC Cards - 2 Type II or 1 Type III slots, 200 pin VESA bus docking station connector, 19mm trackball pointing device, weight under 6.5 lbs.

For more information, contact:  
(416) 862-2064.

#### Texas Instruments' smart notebook batteries

TravelMate 5100/P90 feature set: 90MHz Pentium processor with PCI bus, 256KB Level 2 cache, 1.2 gig HD and 1.44MB floppy, 10.4" active color display with 65k colors and 2MB VRAM, 8MB RAM expandable to 32MB, PCMCIA slot can take 2 Type II or 1 Type III cards, built-in 16-bit sound, internal speaker, dual mode mic, interfaces for audio in/out and real-time video with Intel Indeo video software, infrared port.

Battery system includes two lithium ion with intelligent power system that won award from PC Magazine's Editor Choice Award. Has best battery life for Pentium notebooks.

Street price \$5,399 comes with Windows 95.

For more information, contact TI at  
905-770-2323.

ately. TFT technology is expensive as there is a high defect rate in production. Many entry level, even brand named, notebooks use TFT screen seconds that may be comparable to a good quality DSTN screen. The TFT seconds usually have a few dead pixels which show up when you display a full white page. The defect will appear as a few black spots.

### BATTERY

Most notebooks have moved away from using the old industry standard NiCad (Nickel Cadmium) battery pack towards the more efficient NiMH (Nickel Metal Hydrate) battery. NiMH batteries not only provide more power, but don't have memory problems that plagued the

### FRESH NOTEBOOKS

#### Impaq shipping Pentium 133 Notebook/CD-ROM

Impaq Technology is shipping Eurocom's newest notebook, Model 5400, a fast Pentium 133 with PCI bus architecture. The Eurocom 5400 offers features including built-in CD-ROM, 2MB video RAM, 256KB of external L2 "Write-back" memory cache (expandable to 1MB), cost saving memory expansion via standard DIMM modules and removable hard drive based on enhanced PCI IDE technology at a capacity of up to 1.3GB. The Eurocom 5400 even includes a game/MIDI port.

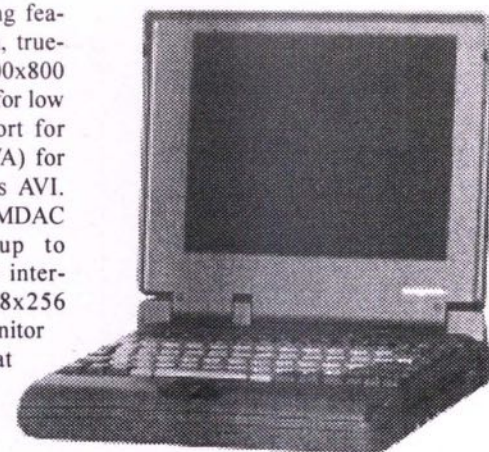
The Cirrus logic CL-GD7543 VGA controller provides the following features: BitBLT GUI acceleration, true-color capability, support for 600x800 LCD's, mixed voltage operation for low power consumption and support for MotionVideo Acceleration (MVA) for playback of Video for Windows AVI. The unit's 24-bit true-colour RAMDAC video controller supports up to 1280x1024x256 colours on an interlaced monitor and 1024x768x256 colours on a non-interlaced monitor (or up to 16 million colours at 640x480).

Eurocom 5400 is CD-ROM, voice and sound ready,

incorporating internal CD-ROM and 16-bit stereo sound system with FM synthesizer, 2 built-in speakers, a microphone, external mike jack and audio output jack.

List price for a Eurocom 5400, 10.4" TFT Active Colour with Pentium 75 CPU, CD-ROM, 8MB RAM, 540MB Hard Drive \$5295.

For more information contact  
Impaq at 1-800-663-9272.



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14" N.I. .28dpi SVGA Monitor  
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**Pentium P-120 \$2369**

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### MultiMedia

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### NoteBook

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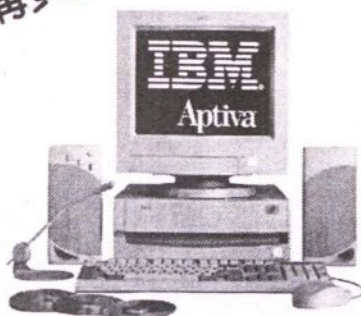
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recharge ability of NiCad batteries. Lithium ion batteries are another solution. Lithium ion batteries, volume to volume generate about the same amount of power as NiMH batteries, but at half the weight. Lithium ion batteries are charged in series, one cell at a time. On average, with a twelve cell battery, the first cells are damaged by the time the last cells are charged. To overcome this, manufacturers limit the number of cells (usually to two 7.5 volt cells) causing a dramatic 300% cost increase over NiMH batteries.

### PCMCIA SLOTS

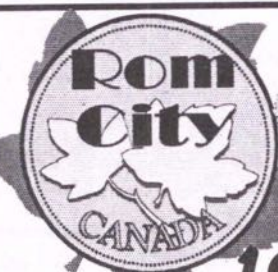
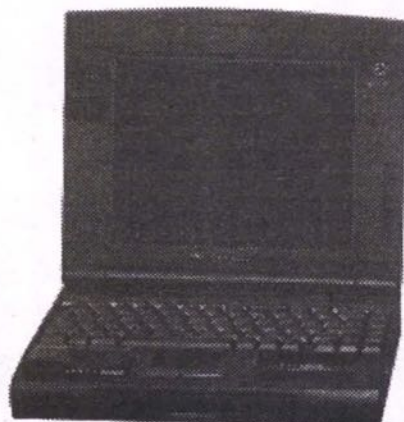
PCMCIA (Personal Computer Memory Card Interface Association) standard is available in three types: I, II & III; the type IV PCMCIA, developed by Toshiba, is not yet a recognized standard. PCMCIA v2.01 interfaces with Type I and Type II cards, the most common format is Type II. Only hard drives are available in Type III at this point. Customers with only one PCMCIA Type II slot should not worry - there are

### FRESH NOTEBOOKS

#### NEC Versa 4000 Notebook

With up to 90MHz of Pentium power, the NEC Versa 4000 combined with a 10.4" High-Resolution 800 x 600 TFT display and CD-ROM access. The interchangeable CD-ROM Pak (standard on two models) slides easily into the front-mounted VersaBay™ II slot. Sound, at 16 bits, pours through the two top-mounted speakers while full-motion video is displayed across a brilliant screen. An internal microphone is right below the screen. Memory starts at 8MB (upgradeable up to 40MB). Hard drives available in 540MB and 810MB (upgradeable to 1GB). Two PC Card slots for incorporating more expansion.

For more information, contact NEC Technologies Canada at (905) 795-3600.



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## FRESH NOTEBOOKS

## Epson's ActionNote notebook



Epson ActionNote 890 series of notebooks is based on the 3.3 volt, clock tripled with 8KB integrated write-back cache Cyrix DX4-class 100 MHz processor and they are the 890C, 895C, 890CX and 895CD. The 890C feature dual scan displays, the 890CX and 895CX feature an active matrix TFT display. All have removable 540MB HDs.

The ActionNote 895C and ActionNote 895CX are multimedia capable with a built-in 16-bit SoundBlaster compatible stereo audio card, internal mic and speaker. There is an integrated 14.4 fax/data/voice modem.

The audio card and fax-modem are options on the other models.

All ActionNote 890 series notebooks have ActionPoint touchpad pointing devices, Windows 95 compliance, 8MB RAM expandable to 24MB and stacked PC Card slots. Software bundles include a choice of MS-DOS, MS-Windows or Windows 95. Also included are Lotus SmartSuite, trial subscriptions to the Official Airline Guide FlightDisk for Windows, Prodigy, CompuServe, America Online, NetCom NetCruiser, ARK Workspace, PC card services and utilities and on-line documentation. Systems with built-in fax/modems include WinFax Lite and WinComm Lite.

Options include: enhanced ActionPort Replicator, a Kensington Security Cable and an expandable 810MB HD. One year Road Service warranty which is a rapid response program for overnight replacement of the notebook should there be an unresolvable problem. Prices for the 890 series start at \$3,369.

Contact: Epson 800-289-3776

## Jetbook CD5(F1)

Pacific Royal is introducing the Jetbook CD5, a 586PCI multimedia notebook that has built-in CD ROM, 16-bit sound and an Optional MPEG module for CD movies. The Jetbook CD5 is designed to allow the user to use the CD ROM, floppy and battery simultaneously, with no swapping. It is utilizing the new DIMM standard memory modules and will support the Pentium 133mhz processor. Available in a three year limited warranty and proven express service by Pacific Royal.

For more information, contact Pacific Royal at (800) 538-8212.

adapters to convert a Type II into a Type III, since the only difference is the thickness of the slot and not the connector.

PCMCIA technology allows many add-on devices available for desktops, to be used in notebooks. As technology advances, PCMCIA cards in the near future will be able to incorporate many

functions on one card, as well as having hot swap capability which allows the user to change cards in the middle of an application. Not all PCMCIA cards are the same; compatibility, memory requirements, and installation are considerably different from desktop systems. Contact your reseller for specifications.

## SUMMARY

Notebooks are a viable and in many ways a better solution for users at home and in business. Since most resellers know less about the industry, they tend to neglect notebooks or give them little

*Continued on page 38*

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## Toshiba sets new performance standard in multi-media notebook

Toshiba claims their Tecra 700CT is the most powerful multimedia ready notebook. It features a 120 MHz Pentium processor which

consumes 2.9 volts, 11.3" diagonal 800 x 600 TFT active matrix display with 64k simultaneous colors run by a Chips & Technology 65548 PCI-based graphics controller, internal PCI bus, external PCI expansion bus architecture for support of 32-bit PCI Cards through the new Desk Station V docking station.

The Tecra 700CT has 16MB of high-speed synchronous DRAM (expandable to 48MB), weighs 7.5 lbs, removable 1.13 gig HD, Accupoint pointing device, two stacked 16-bit PC Card slots that accept 2 Type II or 1 Type III cards and a long life lithium ion battery with an estimated 5 hours of operational

time. Options are 4x CD-ROM reader which can be swapped out for floppy drive, 2 stereo speakers and integrated 16-bit audio that supports .WAV, MIDI and Sound Blaster Pro sound files.

Windows 95 compatible. Uses advanced RAM that is faster than EDO DRAM and eliminates the need for expensive and power-hungry Level 2 caches.

The optional Desk Station V's external PCI expansion bus supports 32-bit PCI and 16-bit ISA as well as Plug and Play and simplified card configuration. A built in SCSI-2 port, 5.25" half-height bay and 2 Type III PC Card slots.

SRP is \$9,359. Desk Station V SRP is \$999. 3 year parts and labor warranty.

For more information, contact Toshiba at (800) 387-5645.



## Toshiba midline notebook offerings

Toshiba's line of Pentium 90 notebooks fills out its mid line offerings. The Satellite Pro 410 Series of multimedia-ready notebooks running Pentium 90MHz processors feature 11.3" diagonal 800 x 600 color displays with advanced video controller, modular 4x CD-ROM, internal 16-bit audio, 722MB HD, 8MB of EDO RAM and lithium ion battery. The Satellite Pro is available in two models with different displays and CD-ROM configurations. The Satellite Pro 410CS has a 11.3" diagonal dual-scan color STN-LCD display and an internal floppy drive module, while the Satellite Pro 410CDT features an 11.3" diagonal TFT active matrix color display and both the quad-speed CD-ROM and floppy drive module with an external case. The 410CS can display 256 colors internally, the 410CDT at 65,536 colors. Audio capabilities includes 16-bit sound with .WAV, MIDI and Sound Blaster compatibility, built-in mic and speaker, headphone/speaker jack, microphone and line-in jacks and pre-installed sound software.

An integrated AC adapter and CD-ROM (optional on the 410CS) cut travel weight and bulkiness, meaning the Satellite Pro 410CDT weighs 7.5 lbs with CD-ROM module and battery and 410CS is 7.0 lbs with floppy and battery. The notebooks have Accupoint pointing devices and 2 stacked PC Card slots (accepting 2 Type II or 1 Type III PC Cards). Built-in infrared communications.

An optional Enhanced Port Replicator allows docking to other peripherals.

The 410CS with standard memory, built-in floppy is \$5,559 SRP. Optional CD-ROM is \$519 SRP. The 410CDT including interchangeable floppy and CD-ROM drives is priced at \$7,299 SRP. Three year warranty on parts and labor.

Toshiba cuts prices on eight of its notebooks including the Portege 610CT, Satellite Pro series and satellite series. Cuts range from \$300 to \$1000.

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Continued from page 36

thought. Service is the most important issue, fast turn-around and knowledge are paramount; do not be fooled into thinking that only brand names are the best solution; most brand names don't do their own service and any promises are usually empty ones. Before making any decisions, find a company who spe-

cializes in notebook solutions. Unfortunately most companies tend to do everything and the age old saying, "a jack-of-all-trades and a master of none" is more true than ever. □

About the author : **Michael Whitfield** works with *Pacific Royal*, a notebook distributor. He can be reached by phone: 604-279-8731 or 800-538-8212.

## FRESH NOTEBOOKS

## Sceptre High speed Notebook

The new SoundX Series 4000 modularized, high-speed notebook uses the Pentium P54CSLM 120/133MHz processor and 11.3" active matrix screen with 800 x 600 resolution, built-in removable

4x CD-ROM which can be swapped with floppy or battery. HD is swappable with expansion to 1 gig. 72-pin DIMMs expand from 8MB to 40MB. Keyboard has Windows 95 keys and a touchpad with palm rest. Sound Blaster compatible 16-bit sound, lithium ion battery with 4.5 hours of run time. Docking station can be hot docked and has PCI slots, 3 audio ports, MIDI and PS/2 connector.

SRP is US\$4,995 with 3 year warranty.

For more information, contact Sceptre at (818) 369-3698 or in Canada at (604) 244-7798.



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- Introduction to MIDI
- Computer Paint/Fractal Painter plus Photoshop

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- Internet Training for General and Specific Users
- Overview of HTML Publishing for Mac & PC Users
- HTML Publishing Level II for Mac & PC Users
- Graphics On The Internet: One-day Workshop
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### ANIMATION

- Classical Animation: Art & Technique
- Foundation Drawing Skills
- Life Drawing Skills

### Alias/Wavefront Power Animator Course



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Alias/Wavefront, the world's leading special effects software company, has designated Vancouver Film School an official Alias/Wavefront training centre to meet the global demand for computer animators skilled in Alias/Wavefront software applications. Within this partnership a high-end computer animation program has been created that delivers more access to SGI platforms (360 hours); the best possible workstation/student ratio (1:1), in a stunning production environment, at a cost without rival (\$16.60 per hour).

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### Smartbook Compact

Pacific Royal has introduced the Smartbook Compact computer. Featuring a 10.3" color DSTN color, easy upgrades using standard DIMM memory modules, a removable hard drive and local bus video in a 4.8 pound package. The DIMM module was developed in 1994 by Hitachi, designed specifically for notebook computer. The 4.8 pound Smartbook Compact is 486VL-bus system that includes a PCMCIA type 2.0 or 3.0 slot, integrated floppy, front-centered 19mm trackball and NiMH battery. An ergonomic design includes wrist-rest and regular sized 18mm keys.

For more information, contact Pacific Royal at (800) 538-8212.





(Continued from page 29)

## OCX Controls

OCX 32 bit controls and OLE automation take plug and play programming to a new level of simplicity and functionality. It is very easy to place a small Excel spreadsheet on a Visual Basic form thus providing a little spreadsheet in your application.

By using a tabbed dialog box OCX you could set the spreadsheet on one of the tabbed forms a user could select.

Freeware Calendar OCX's are among the first wave of third-party

OCX's but when the soon-to-be-released **Delphi for Windows 95** hits the shelves new and improved OCX's will be everywhere providing grids, spinners, charts, internet access, communications tools, sound manipulation, as well as the unimaginable.

These plug and play modules should work equally well used in Visual Basic, Delphi, Access, Visual FoxPro or Lotus Approach.

## Online Resources

If you have a modem and a connection to the internet there is a wealth of help and information available.

There are a series of Usenet groups in the comp.lang.basic.visual hierarchy. c.l.b.v.misc and c.l.b.v.database are two of the most popular.

Mailing lists are another source of online information and a good place to ask questions. VISBAS-L and VBDATA-L are especially helpful. You

can subscribe to these lists by sending email without a subject line to [listserv@peach.ease.lsoft.com](mailto:listserv@peach.ease.lsoft.com). In the body of your email type "subscribe VISBAS-L YourFirstName YourLastName" or a similar line to VBDATA-L. Once mail starts arriving you may decide to receive your messages packaged as a single file. To do this, send a message to the listserv above with the message "set VBDATA-L digest".

On the Worldwide Web there are dozens of interesting sites with Visual Basic help, tips and tricks, VBX's, OCX's, example source code, full length articles etc. Some of our favourites are:

**Carl & Gary's VB Home Page** at <http://www.apexsc.com/vb/vbnews.html>

**Gary Beene's Visual Basic World** at <http://www.iadfw.net/gbeene/visual.html>

**Visual Basic Online** at [http://www.vbonline.com/vb\\_mag](http://www.vbonline.com/vb_mag)

**Visual Basic Programmer's Journal** at <http://www.windx.com/>

**Microsoft** at <http://198.105.232.6:80/vbasic/>

## Hardware/Software Requirements

Visual Basic 4.0 requires a computer system capable of running Windows 95. Specifically you need a 486/25 or higher processor with at least of

12 MB of memory. You must be running the Windows 95 or the Windows NT operating system and have 20 MB to 80 MB of free disk space. Installation requires a CD-ROM drive.

## Next Month

Unless there is a late-breaking development between now and next issue we will take a look at the database companion to Visual Basic 4.0 the newly-released Access for Windows 95. □

About the author: **John Hamm** is a consultant and database application developer at Eastside DataGraphics, 1458 Commercial Drive, Vancouver, B.C. V5L 3X9 Tel: 255-9559, email: [John\\_Hamm@MindLink.bc.ca](mailto:John_Hamm@MindLink.bc.ca)

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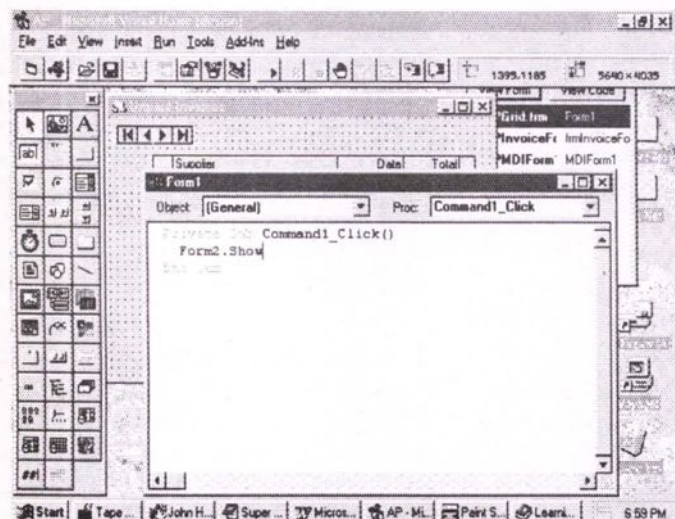
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## Custom software development - A marriage of convenience?

By Gary Dunn

*"Any intelligent woman who reads the marriage contract and then goes into it, deserves all the consequences." Isadora Duncan (1878-1927), U.S. dancer. My Life, ch. 19 (1927).*

We will never know if Ms. Duncan was referring to the institution of marriage, or just the terms of it. Your relationship with the developer of your custom software application may not last for life either. But there are things you can do to make sure the relationship is a happy and productive one for both parties - and not just a marriage of convenience.

Business people often look at a contract as a necessary evil - an insurance policy to be relied on in the event of a dispute. The increasing, and often painful, length of modern contracts has not helped to change this view.

A carefully thought out contract can provide the structure for the entire process - and contribute to improving the quality of the finished product. How? By addressing in one place the business, design, and legal issues of the project. In other words, by clearly recording (1) the desired outcome, (2) the promises made to get there, (3) how completion of the promises will be measured, and (4) how the inevitable breakdowns will be fixed.

Starting with mutual responsibility. Client and developer alike want a product that has been effectively created with regard to quality, time and cost.

It never hurts to do a little investigation about the developer and his reputation and experience. If you are hiring the developer because of specific representations made to you, or assumptions that you

have made, you might consider whether any of these representations belong in the agreement.

When hiring a developer, it is all too tempting to let them, as the "expert", take the responsibility for defining both the needs and the solution. Like the bride at her second marriage who doesn't wear a veil in order to see what she is getting, the client also has a major responsibility in this part of the process. The more clearly you have thought out and articulated your needs, the more likely they are to be satisfied.

Assuming that the developer has checked out, the foundation of the contract should be the developer's proposal to you - and how the proposal is translated into detailed specifications during the project. This can be one of your best opportunities to ensure that your needs are met.

All of this begs the question of whether you should build a custom solution or just modify an existing application. Experts differ on the answer to this, but it is a question well worth asking before committing.

"And how can I evaluate if I am getting a well thought out and designed product?" you might ask. In the absence of industry standards, you might want to have an independent software engineer review the developer's development plan and design. There are also tools available to the developer such as ProDoc, developed by the Software Productivity Centre, a non-

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profit industry driven organization located in Vancouver, B.C. ProDoc is a documentation tool designed to help manage the pre-development phases of the development process. ProDoc can also be very helpful in situations where it is important that the quality of the software meets such international standards as ISO 9001.

You will want to provide for an evaluation and approval process, not just for the finished product but for each part of the planning process. A well thought out agreement will also provide for quality assurance through testing to agreed standards. It is becoming more common to tie progress payments to quality assurance instead of simply the production of work product.

Good documentation can also be critical to proving a claim for Scientific Research and Experimental Development tax credits. Currently, software development in general continues to qualify for this tax incentive, with certain exceptions. Advice from an experienced tax professional at the beginning of the project can increase the chances that your project will qualify.

Ownership of property rights is more often left to chance than to discussion and agreement. For example, did you know that your independent contractor will own the copyright in your work product in the absence of an agreement to the contrary. Some rules are obscure and can result in unintended results, and you are well advised to get professional advice to ensure that you get what you bargained for.

Additionally, you will want to ensure that the developer is able to document your rights, and assure you that no one else has a competing claim. This is an opportunity to check the developer's internal procedures, and whether the appropriate legal agreements are in place with employees of and contractors to the developer.

Ownership issues can also be important if your product includes content that belongs to others - pictures, images, sound, and other copyrighted material. Obtaining the required clearances can be time consuming and expensive. While this concern most commonly arises when creating multi-media products, it deserves a place on your checklist.

To understand the developer's perspective, he will normally prefer to license rather than transfer copyright to the client. This is often because the custom software is built on portions of software previously built for others - routines which the developer considers part of his library and intends to use in future projects.

Ownership goals might be better understood and expressed as a desire to create barriers to competition. The outright ownership of the software is just one way to express this desire. Your goals may vary depending on whether the project is to develop software for internal use or for resale - the former being much more common.

A common way of resolving this is to negotiate an agreement with the developer restricting him from developing a competitive product during an agreed pe-

riod of time. These negotiations can often be difficult, because the developer commonly does not include a price in the quotation which takes into account this restriction on his ability to conduct business. You may end up paying more for your product, or at a minimum having to make some hard decisions about the extent you will go to try and restrict competition.

Often overlooked is the need for ongoing maintenance and upgrading of the software. You will likely need some form of

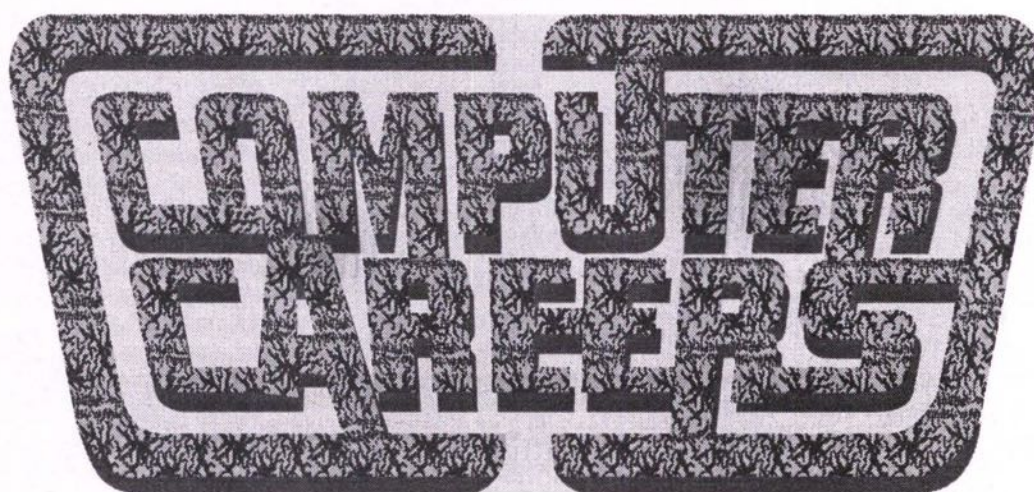
access to the developer's documentation and the source code in order to do this.

And one last hint. During the course of development, you will most certainly disclose details about your business which are confidential. Some of this information will be important enough to you that your competitive position could be substantially effected if the information is disclosed. A properly crafted non-disclosure agreement will complete your project documentation.

All of which will increase the likelihood that your software will be created on time, within budget and in accordance with your specifications. □

About the author: *Gary Dunn* practises information law in Vancouver, B.C., specializing in intellectual property, securities and licensing. He can be reached at 604-739-7011 or at [gary@dunn.com](mailto:gary@dunn.com)

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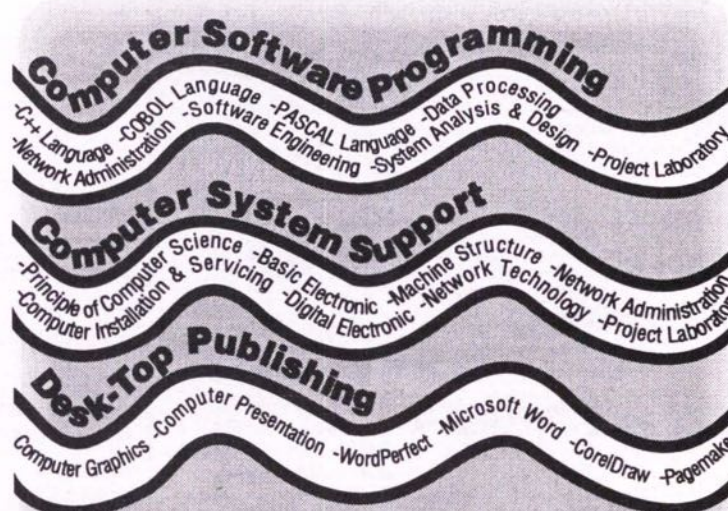


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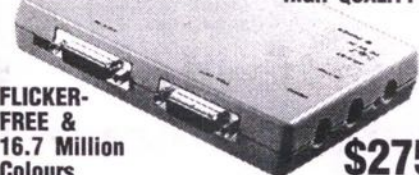
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## Three Cards

### Let Laptops Stay Connected - Anywhere

By Alan Zisman

Portable computer users still need desktop power and speed. No where is this more apparent than in the need to stay connected. On the road, in and out of the office, at home? Need a high-speed modem to connect to the Internet, to BBSes, or to access data and even programs on the business network?

And back in the office, would the ability to plug into the network would be a plus?

At the same time, you have to deal with the limited size and weight restrictions of portable computing, where every extra centimeter and gram counts. An added problem is the limited expandability of portables. These three PC Cards (formerly known as PCMCIA Cards) provide an answer to the dilemma, usable by any portable user with an empty Type 2 PC Card slot.

### GVC 14.4 Fax Modem

Concord, Ontario's Gentek markets a full range of affordable modems, including a 14.4 PC Card fax-modem. (They also market a separate PC Card Ethernet adapter, for those networking needs). It works well and is available at an attractive price, but is somewhat hindered by the spartan documentation... a 13 page mini-manual.

The F-1114PV1 model ships with a proprietary, plug-in phone cable, and a copy of Delrina's 4-in-1 telecommunications software, comprising 'lite' versions of ComIt telecommunications software for DOS and Windows, and WinFax and DOSFax. Of course, it can also be used with the telecommunications and fax software of your choice, after some fiddling with configuration settings.

In addition, a PCMCIA driver disk is included, although the modem requires that Socket/Card Services are already installed on your portable. Win-

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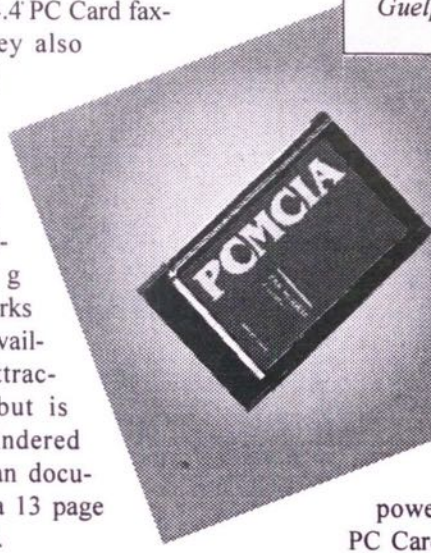
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**Megahertz XJack14.4 Ethernet Modem**  
**List price: \$395 (US)**

**Megahertz**  
604 North 5600 West  
Salt Lake City, UT  
84116-0020 USA

**Jack of Diamonds TrumpCard**  
**List price: \$827**

\$425 special limited time evaluation price  
**Ositech Communications, Inc.**  
679 Southgate Drive  
Guelph, Ontario N1G 4S2



dows 95 correctly auto-recognizes this card as a "Cirrus Logic" modem, and will automatically install drivers for it. As with other cards in this review, the GVC model features hot insertion—meaning it can be inserted or removed without having to

power the computer down. Because PC Cards can really drain portable batteries, it features a low power sleep mode, when inserted but not in active use.

The modem performs well, supporting all the standard 14.4-level modem specifications—V32bis, V42bis, and so forth, and operates as a Group III fax, for sending and receiving. It can be configured to work on any of the four standard COM ports, and supports the standard Hayes AT commands. It includes a five year warranty, which can be extended to a lifetime warranty, with the purchase of GVC's DataGuard communication line protector.



It represents good value in a modest package.

## Megahertz 14.4 X Jack Ethernet Modem

This offering from Megahertz is a step up in features, packaging, and price from GVC's card. It's just one of a series of PC Card modems and networking adapters from Megahertz, now owned by US Robotics.

Unlike GVC's card, which requires a proprietary phone cable (lose it at your own risk), the current line Megahertz models feature a trademarked XJack adapter—a thin phone jack that fits into the body of the PC Card when not in use. Simply press on the end, and the XJack pops out. That means you can plug any standard phone jack into this card. Some fear that it may be easy to break off, however, a charge that Megahertz denies. At the same time, use of an XJack and phone cord may make it impossible to use some second PC Cards at the same time.

While the unit includes the XJack for its phone connections, a proprietary adapter is used for the networking side of the card—depending on the adapter, either 10BaseT or 10Base2 cables can be used with this card. (Megahertz's

\$215 (US) Ethernet adapter comes with a similar XJack for 10BaseT plug ins)

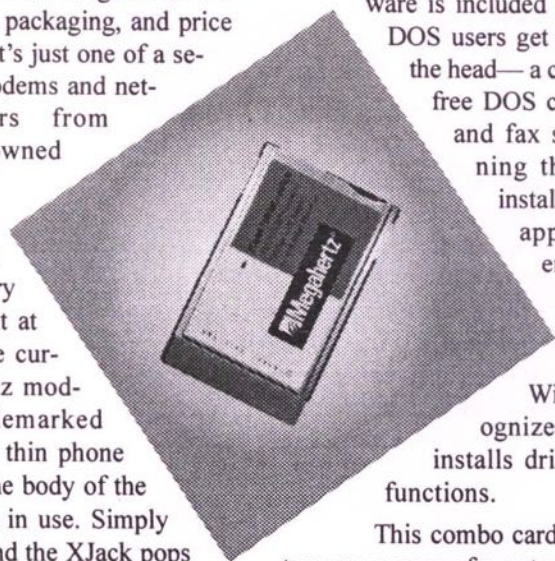
Faxworks 3.0 for Windows software is included, along with CompuServe and America-On-Line connection software, but no general purpose telecom software is included in the package.

DOS users get a token nod of the head—a card to return for free DOS communications and fax software. Running the DOS-based install program adds appropriate drivers for both the modem and networking functions; Windows 95 recognizes the card and installs drivers for all its functions.

This combo card permits simultaneous access of a network, along with 14.4 fax modem. It also features a built-in Digital Line Guard, an attempt to protect the modem from being plugged into office digital PBX high-voltage phone lines... if you do, you'll be notified of potential problems, and the modem will be switched off-line—hopefully before any damage to the modem has occurred. (Digital phone lines are unlikely to harm traditional modems, but the higher voltage has the potential to make any PC-Card modem go up in smoke—beware!)

Another handy feature—Megahertz's software includes a point enabler. This can reduce (DOS) memory utilization by setting up the card, and then removing itself from memory. The down side of this is that doing so limits the ability to remove and re-insert the card, or to switch in and out of power-saving sleep mode. Windows 95 users avoid these problems, getting drivers that load into much more available extended memory.

This unit includes a full-featured, 170 page manual, complete with all the modeming jargon that makes this area of computing so much fun. Like the GVC card, it includes a 5 year warranty.



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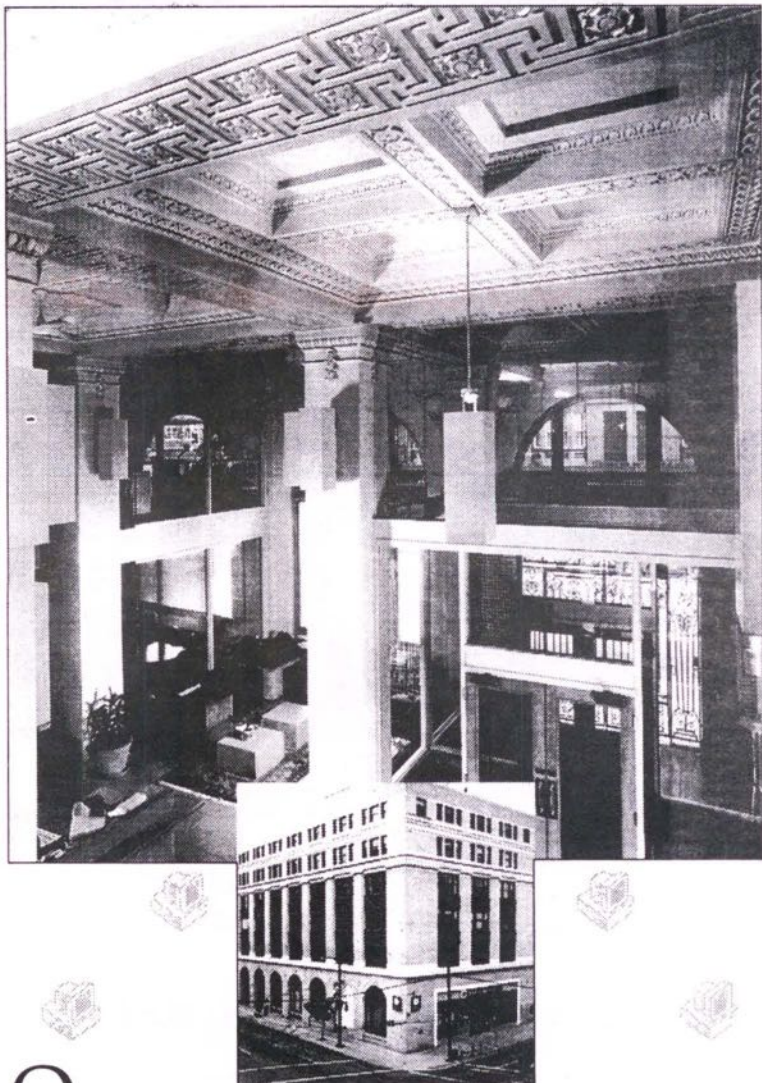


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## REVIEW

The Install program will set up your machine with its own version of Card and Socket Service drivers if you do not have any specifically installed. This well-designed program will set up your machine to, by default, connect to a Novell network, and for simultaneous network and modem operation. An Uninstall program can be run to undo the installation.

The documentation aids in the sometimes complicated configuration of the modem for your telecom software—especially necessary since no telecom software is included with this package. It lists a number of different modems that can be chosen if your software lists modems by model, and also includes sample initialization strings for a wide range of popular software. In addition, it gives detailed instructions for working with the modem and the (Type 2) fax, and for setting up the network driver with a range of popular networking packages. Additional information on manually configuring the networking and modem functions will appeal to the computer do-it-yourselfer.

Flash ROM means the card's built-in software can be updated as newer versions become available. Megahertz uses the well-regarded AT&T chip set in its modem.

Megahertz is one of the most widely distributed brands of PC Card modems—users who do not need this model's combination of networking and telecommunications should have no trouble finding their 14.4 and 28.8 kbs modem-only cards at their favorite retailers.

### Jack of Diamonds is a hard card to play...

Like the Megahertz card, the oddly-named Jack of Diamonds TrumpCard, from Guelph, Ontario's Ositech, is also a combo card, cramming Ethernet networking and a fax modem into a single, Type II PC Card. Unlike the Megahertz product, this card boasts 28.8 v34 ultra-high speed modeming. It also features cellular support, making it particularly attractive for mobile users. On the other hand, with a \$827 (CDN\$) list, it's also the most expensive card of the trio. (There is a special \$425 CDN\$ evaluation price in effect, for one unit per customer site, until the end of next March).

Like the Megahertz card, it permits simultaneous network and modem connection. Unlike that card, it does not use (Megahertz's patented)

XJack connector—including special cables for both the telephone and networking jacks. A 10BaseT cable is included... an Media Access Module, allowing both 10BaseT and 10Base2 network connections, can be ordered (upping the price by another \$69).

The included software allows connection to several popular cell-phone models at speeds up to 14.4 (which is pretty good, considering the unreliability of cell connections in general), and includes a nice feature—it notices whether or not the network adapter is in use... if not, it powers down that side of the card, providing dramatic savings on notebook batteries.

The company claims compatibility with DOS, the entire Windows family (including 3.11, 95, and NT), OS/2, and several varieties of UNIX (though not the popular Linux). As with the other cards in this review, I used it with Windows 95, which again, successfully recognized both the network and modem functions, and automatically installed the appropriate software.

Unlike the Megahertz card, the TrumpCard does not include its own generic PC Card and Socket Services software—it claims, instead, to be compatible with the CS&S software installed with virtually all PC Card systems. Like Megahertz's software, an optional point enabler allows users to save about 60k of DOS memory, at the expense of losing hot swapping. QuickLink II Windows fax and telecom software is included. There are separate manuals for installation, and for the modem and networking sides of the card.

While Windows 95 happily recognized the card's modem function, and set it up to work transparently with that environment's native telecom and Internet software, it was more difficult to find appropriate initialization string information to work with my older (DOS and Windows) software... eventually I located a Readme file with sample initialization strings—buried several directories deep in the driver disk. Even with this information, I never quite got my software set up to my satisfaction, and found modem performance slower than I would have hoped from a 28.8 kbs modem... perhaps my own fault, but I

would have hoped that this vital information would be more clearly communicated.

It's the priciest of the cards reviewed, but Ositech's offering is clearly the feature-leader of the bunch. □

About the author: *Alan Zisman* is a teacher and an associate editor of *Computer Player*, he can be reached by e-mail [alan\\_zisman@computer-player.com](mailto:alan_zisman@computer-player.com)





## Desktop Publishing Tips:

# Corel Ventura 5.0

By Swee-Sim Tan

This month we'll look at the different ways you can create decorative caps in Corel Ventura.

The first method uses Ventura's automatic drop cap feature. Start Corel Ventura. With the Tagged Text tool, click in a paragraph you want to format with a drop cap and add a new tag for this style.

With the cursor in the paragraph, click the right mouse button and select **Format, Character**. Select a font (Vivaldi) and size (14 points) for the paragraph.

Click the **Apply Effect** drop-down list and select **DropCap**. Choose the drop cap **Font** (Vivaldi) and enter 48 points for the **Size**. Ventura creates an initial letter in the specified size and indents the appropriate number of lines for that size. Click **OK** to view your drop cap.

To create a raised cap, use the Tagged Text tool to click in the paragraph. Click right and select **Format, Character**. Click **Drop Cap Character** in the dialog box. Click **Custom Spacing**. Enter 1 line. Enter -14 points for the Shift Up amount. Click **OK**.

With the text cursor in the paragraph, click right and select **Format, Spacing**. Enter a Paragraph Left Indent of 1 pica and a first Line Indent of -3 picas. This creates an outdented paragraph for the drop cap.

The next method uses an in-line graphic.

Draw a frame and load a decorative letter from the clip art files (\clipart\letters on the CorelDraw CD). Use the Pick tool to select the frame. Click **Format, General**. Click in the **Frame Anchor** box. Enter a name for this frame. Click **OK**.

Type the rest of the paragraph. Drag the frame to the start of the paragraph and adjust the size. Use the Text tool to position the cursor before the first letter. Click right.

Click **Insert Special Item** and select **Frame Anchor**. The frame anchor name should display.

For **Frame Position**, click **At Anchor** for an in-line graphic. The frame will be inserted at the baseline of the line of text and will act as a text character. Click **OK**.

In the example, each paragraph was tagged differently and indented to arrange one below the other. □

About the author: *Swee-Sim Tan* is a freelance graphic artist and desktop publisher who provides training and consultation in CorelDRAW, Corel PHOTO-PAINT, Corel VENTURA, Harvard Graphics, PageMaker, and WordPerfect. If you are using CorelDRAW, Corel PHOTO-PAINT, CorelTRACE, or Corel VENTURA, call for information about purchasing How-To booklets and a collection of desktop publishing tips. Telephone: 254-5940.

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not even a mouse

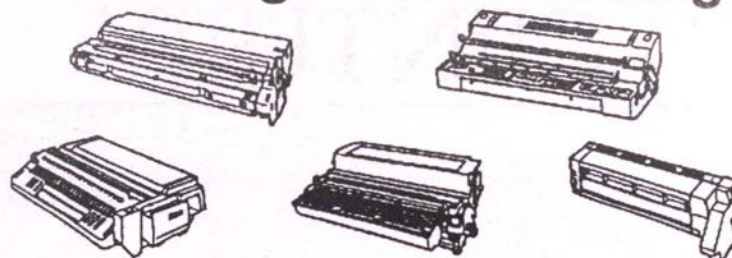
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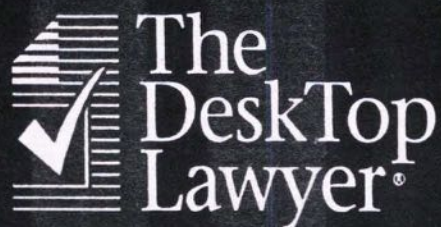
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## Taiwan Firm to Sell Mac Clones

To become the first Taiwanese company to sell clones of the Apple Macintosh, Umax Data Systems Inc. has signed an agreement with Apple Computer Inc. to license the Mac operating system and PCs.

Umax plans to sell Apple clones from other manufacturers in the Asian market until next year's third quarter, when it will start selling its own Apple clones worldwide.

Saying he has been in negotiations for several months with Apple, Umax Chairman Frank Huang told the wire service his firm "has expanded its business from computer peripherals and multimedia hardware to hardware components," adding, "We believe it is time for us to enter into the computer market and build the Umax-Elite group as a broad-based high-tech company."

Meanwhile, Lamar Potts, licensing vice president for Apple, said, "Among all of the Taiwanese companies who were candidates for the licenses, Umax understands the Mac market the best and they already have sales and marketing resources for this market."

UPI quotes Umax officials as saying the firm also will improve the Chinese language Macintosh operating system and plans to develop Chinese applications for the Macintosh because such programs are in short supply.

Analyst Darwin Singson of Dataquest observed, "Apple needs the partnership to win its market share in Taiwan and China, where Apple holds around 3 percent of the market share." UPI says Apple holds approximately 20 percent of the market share in Japan, Hong Kong and Singapore.

UPI commented, "Apple's decision to not license its software until last year is widely regarded as one of the key blunders in the PC business over the past decade, which saw Microsoft Corp. become the dominant player."

## Apple's 'Pippin' Comes Next Year

Pippin — Apple Computer Inc.'s new multimedia device, a hybrid between a television-based computer game player and a stripped-down but speedy computer — is

expected to be introduced next year, first in Japan and later in the United States.

So said Apple CEO Michael Spindler during presentation at the annual Personal Computer Outlook conference in Burlingame, California, where the device was demonstrated.

The Reuter News Service notes Apple has licensed its Pippin technology to Japanese game maker Bandai Co. Ltd., which will market the system in Japan under its logo. Apple officials in Japan recently discussed Pippin plans.

Spindler did not discuss pricing, but Stephen Franzese, director of business development for Apple's entertainment and new media division, told the wire service Pippin is expected to sell for about \$500.

Franzese added three U.S. licensees have lined up — he declined to identify the licensees, saying it is up to the partners themselves to make any announcements — and that Pippin should be on store shelves in the United States in autumn 1996.

Spindler told those at the conference that licensees will initially sell Pippin under their own logos in the U.S., but that eventually Apple may sell them under its own label.

## Mac CD-ROM Multipack Set to Ship

Sirius Publishing Inc. says the Macintosh version of its 5-Ft. 10-Pak CD-ROM multipack will ship soon.

Sold as a five-foot-long vinyl strip or in a box, the collection includes 10 CD-ROM titles that Sirius licenses from various software publishers. The US\$39.95 product also includes discount coupons and other promotions.

The Mac version features Hell Cab by Time Warner, Dragon's Lair by ReadySoft, Prince Interactive by Graftix Zone, Mayo Clinic Family Health Book, SiriusNet by Sirius Publishing, Mad Dog McCree by IBM, 2000 Fonts by Fantazia, Dracula Unleashed by Viacom, Internet Executive by LearnKey and Battlechess Enhanced by Interplay.

"We think the 5-Ft. 10-Pak Macintosh edition will do as well as the PC version," says Richard Gnant, president and CEO of the Scottsdale, Arizona, company. "The multimedia market continues to see rapid growth."

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# Responsible Internet use

By Iain Black

*I'm part of a rather unique generation.*

First, those of us between the ages of 28-35 lack a CNN-created label. We're too old to fit into "Generation X", (which apparently means we do have direction, vision, and sense of purpose and patriotism), but we're too young to be called Yuppies; too young to have taken advantage of the roaring economic and materialistic 1980's. But of more significance is the fact that the conclusion of my childhood and my nameless peers marks the end of an era that has lasted over thirty five years.

*You see, we are the last to be raised solely on television.*

authority claiming that we have only just begun to feel the impact and penetration of this phenomena, we now we find ourselves at the beginning of yet *another* era, with an unlimited number of questions for the experienced and uninitiated alike. One of the most critical issues running through each of television, video games and the Internet, however, involves the importance of **parental involvement** and **responsibilities** as these technologies overrun our homes.

This is not a new concern. Sure, there were quite a variety of violent and sexual options a short 15-20 years ago (Bruce Willis has *nothing* on Dirty Harry or Charles Bronson). Also, the graphic nature of arcade video games has been the subject of debate for the past 6-8 years, as they moved from involving a little yellow ball eating dots and fruit within a maze with the occasional goblin chase, to heroes ripping out the vital organs of their defeated opponent and victoriously raising them above his head. Nice stuff.

It is undeniable, however, that the general and indiscriminate accessibility of violent and sexually explicit material today is much higher, with no sign of it slowing. Film, TV and kids entertainment media involves more sex and violence, and it doesn't appear that our - and today's kids' - tolerance threshold is stopping it's steady rise. Therefore, if parents are willing to allow TV, movies, video games - and the Internet - into their homes, the responsibility of **awareness** of the content, and active **involvement** in its selection, is 100% theirs.

Unlike television, however, the Internet presents an additional challenge of being *unregulated*. Nobody owns it, and not one governmental body controls or reviews what information passes through it from one point to another around the world. This keeps the protectors of free speech and expression quite happy, but creates a few risks, as well. Simply stated, not all the information on the Internet is appreciated by, or suitable for, all Internet participants. Beyond the pornography and pedophile scares, hyped by a questionable research paper widely publicized last spring, there is information available on many other topics such as safe sex practices and abortion; good educational information, perhaps, but not necessarily what you want your six year old reading.

## Enter the Internet

Though technology was moving quickly through those years, I don't think anyone could have predicted the tidal wave of the Internet, despite the fact it had been slowly swelling offshore for over twenty years. With every technical

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## What's Out There?

There are 3 main ways users can communicate and/or get access to Internet information, beyond sending and receiving electronic mail ("e-mail"):

**World Wide Web:** Likely the most popular vehicle for Internet exploration, this is the world's largest combination library and yellow pages. One can search for information on any topic, and bring that information right into your home, often accompanied by spectacular visuals and/or a soundtrack. The bad news for parents: The WWW also provides a simple way of publishing erotic material and photographs that any amateur can put together. Beyond sex, topics encountered include drug use promotion, militant militia groups, and amateur explosives creation. Getting access to one "adult site" often has a map (or a direct link) to dozens of other sites, also. Further, your software used for looking at other Web sites requires no alterations to look at any of the erotic pictures, either, as they follow the same graphics standards as Web sites advertising churches.

**Newsgroups:** Notorious for making the string of characters "alt.sex" famous, Newsgroups allow written opinions, essays, discussions and file sharing (or "posting") on an ongoing basis with people from all over the world who share similar interests. There are currently over 13,000 Newsgroups out there - and growing, organized by categories and sub-categories. The bad news for parents: A very small percentage of these Newsgroups involve blunt and explicit discussions on sex... of all types and variations (ex: alt.sex.pictures.children, alt.sex.beastiality). Some of these more controversial Newsgroups contain encoded (though easily decoded) photographs that are often borderline illegal (under local laws around the world) for the authors to post as an already decoded and formatted photo on the WWW (above). Let it be known: Free speech reigns here, indeed.

**Chat Rooms:** Though it might sound like a step backwards for communication, this involves a group of Internet users taking part in "live" conversations, sort of like the party telephone line except one doesn't speak for all to hear; one types for all to see. They can be quite good fun for all ages. The bad news for parents: Like any conversation where you aren't present, kids will say the darndest things... and quite a few that would get your eyebrows raised, too! There have been one or two incidents of pedophile activity in the US where participants (recall the anonymity of the party telephone line concept) were asked information about obtaining

addresses, getting together, etc., but this should not be blown out of proportion (recall Internet users total in the tens of millions).

## What Can Be Done?

Most Internet users are viciously protective of the non-regulated status of the Internet. So, aside from the near impossibility of lobbying local government officials to legislate the control of world wide data and information flow, there is vocal opposition to such a move. The attitude of the Internet is, "If you don't like it, don't look". So I wouldn't suggest waiting for such a thing to happen.

Assuming one has the money for a home PC, simply condemning the Internet and refusing to let it into your home is not the answer. This would deprive your household of the most exciting and intriguing playgrounds and education tools in the world - for you as well as your children! There are steps you can take, however.

1. Clearly, being aware of the facts (as they evolve - this article may well be outdated within a year!) is essential. Understand which Internet resources also contain elements which threaten the value system you would like impressed upon your children.

This is the most important responsibility we have as adults. Period. The rest follow in order of importance:

2. Get decent PC software. There are several PC based software packages that help filter the types of information that come in from (and go out to) the Internet. My personal choice is **Cyber Patrol**. It screens Newsgroups based on titles and WWW sites based on a database continuously updated by users worldwide, and forbids certain text streams from coming from or going to your PC in Chat Rooms. It has some other clever features such as hours of access allowed, and different levels of password control, but it's ease of use and intuitive layout is what first caught my attention.

3. Value shop for Internet services. If you are frustrated by your Internet experience, you will hardly be in a position to want to wrestle with the parental responsibilities, too. Note that the Internet falsely gets hyped and sold as a cheap form of entertainment - I view this as unfair to the consumer. Doing so is like selling a nice looking car, only it has no brakes, no glass in the windows, and bald tires. Pay for decent access (avoid the all-you-can-eat specials), and be prepared to buy software. The purchased software is almost always easier to use, better supported and has more features/functions. Also, if you are not paying a lot for access, don't expect great telephone support. Many ISP's are

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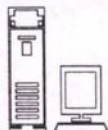
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beginning to charge for their support; this is good for you as it entitles you to get what you pay for.

4. If you are not using PC software that screens the WWW, and you come across a Web site that is likely beyond what most people would consider acceptable, don't be afraid to fire off a note to your ISP systems administrator. Your ISP cannot necessarily control what Web sites are accessed from your ISP's equipment, but they can send a note to the questionable Web site owner asking that any requests coming from your ISP to view it are denied. No guarantees of success here, though.

5. If you are not using PC software that screens the Newsgroups, determine the Newsgroups to which your ISP subscribes. Some ISP's screen out the questionable ones at their source, or give adult users a separate News password. Either way, it's better to know what you're dealing with.

6. Monitor the time kids (Big kids, too!) spend on the Internet, especially if it's only for entertainment. There is no substitute for fresh air and exercise. If you are using an on-line service like CompuServe, or an Internet Service Provider (ISP) which charges by the hour, this is another reason to stay on top of over-usage.

7. The Internet as an industry is now mature enough for you, as consumers,

to expect certain things - like communication. Though it is still in many ways a seller's market, there are hungry ISP's out there. As the connection prices can't likely drop much further, product differentiation will likely occur along the lines of two way dialogue and additional service. If all you are getting is impersonal telephone access, consider switching.

8. Where possible, conduct business with ISP's who reflect similar values as you do. If you can manage the "parental awareness and involvement" bit on your own, terrific - continue to shop based on other criteria.

In summary, note that while the vehicles of involvement are different, much of this guidance is parallel to the steps many parents take regarding the presence of television in their homes. The implication is that creating a Cyber Space which is safe for children can definitely be done, but it will be an ongoing task. The first step, awareness, is the most important, and it clearly belongs to the parent. □

About the author: *Iain Black* is the General Manager of *E-Z Net Internet Services Ltd.*, a Vancouver-based Internet Service Provider with a focus on the Family and the "technically challenged". *Cyber Patrol* software is downloadable through the *E-Z Net Homepage* at <http://www.eznet.ca>

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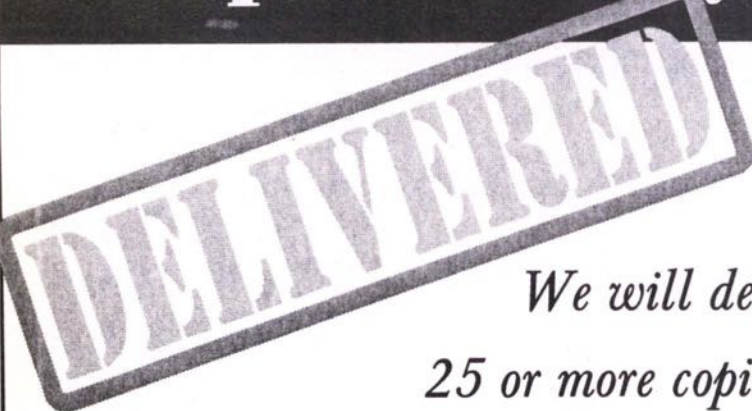
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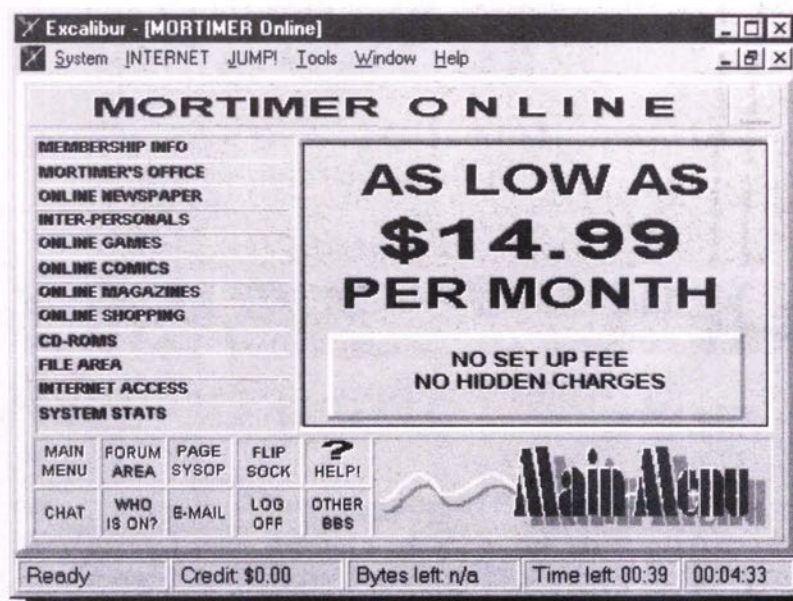
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## Frame Relay and T1 Lines

By Sean Elrington

Over the last few years, Frame Relay technology has become the transmission medium of choice for companies replacing expensive dedicated leased lines. Unlike leased lines, which are private, point-to-point connections, Frame Relay sends your data through a public data network.

Data sent through the network is packaged in 'Frames' and 'Relayed' from switch to switch within the network. Just as ordinary telephone calls are routed through a public switched phone system, if you use a Frame Relay network your data packets share the switches and trunk lines with other people's data.

The idea of public networks devoted solely to data is not new - in the 1970s the telephone companies introduced the X.25 standard as a way of sharing public data networks. The trunk lines in those days were nowhere near as reliable as they are today, so the X.25 standard included a lot of overhead for error checking and correction. This was done at each switch as the data packet traveled through the network. The protocol required a lot of extra information sent with each packet to ensure that it arrived at the destination intact.

Frame Relay takes advantage of modern telephone lines' low error rates

and leaves error detection to the computers at either end of the link which actually receive the data. If a packet is corrupted in transit, the applications running on your computer will detect it and request that the sending computer re-send the packet. This means that Frame Relay does not need the elaborate error checking mechanisms of the old X.25 networks and is able to handle much more data more quickly.

The public Frame Relay network is often referred to as 'the cloud' and is usually shown as a cloud-like shape in network diagrams. In order to access the cloud from your office you will need to buy a dedicated connection to the nearest *point-of-presence* (POP) provided by your phone company. (Unlike ISDN, which is a local loop service provided only by BC Tel, the market for Frame Relay services is hotly competitive with Fonorola, Sprint Canada, Unitel, Westel and BC Tel all providing service). This dedicated line is usually a 56,000 bps line, although you can get faster access lines if you need them.

Frame Relay is very scaleable and therefore very cost effective. You buy a *Committed Information Rate* (CIR) from the telephone company which is the amount of data that your carrier guarantees will always be able to get through the network. Even though you might have a 56 Kbps line into the cloud, you might only need an average throughput of 16 Kbps through the cloud so you pay only for the amount of bandwidth you actually use.

The Frame Relay cloud is not terribly busy in Canada so you can 'burst' up to 56 Kbps and still take a chance that your data will get through. When a Frame Relay packet enters the network there is a bit called the 'discard eligible' (DE) bit which is switched on or off. If the cloud is temporarily busy, any packets you send in excess of your CIR are marked DE and are discarded by the network. This doesn't happen very often (although it might as the cloud becomes busier over the next few years) but if it does then you will have to retransmit your data.

If you want to connect your LAN to a Frame Relay network you will need a


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router. Virtually every router on the market provides integrated Frame Relay software support, however, there are some important differences among them. You might want to look for a router which supports *Forward Explicit Congestion Notification* (FECN) and *Backward Explicit Congestion Notification* (BECN). FECN and BECN are packets sent by the cloud to your router telling it that the cloud is congested. Your router should slow down the rate at which it is pumping data into the cloud, and if it doesn't, then it will continue to pour out data which may be earmarked to be discarded.

A router can also prioritize your traffic by allowing some packets to have precedence over others. This can be very handy when you have many users competing for bandwidth. Database lookups which directly affect customer service, for example, can be given a higher priority than file transfers or email.

When choosing a Frame Relay router you should also look for an easy to configure interface, a fairly fast processor and a migration path to ATM (*asynchronous transfer mode*). Frames used in Frame Relay vary in size depending on the protocol being used. ATM frames are the same size regardless of the protocol. Just as standardized containers make shipping more efficient, standardized data packets can move through the network more quickly. ATM holds a lot of promise and you will want to have a migration path from Frame Relay to ATM as it becomes available.

If you just need to connect terminals or PCs to a Frame Relay network you can use a *Frame Relay Access Device* (FRAD) rather than a router. These units cost about \$1000 and up depending on how many ports you require. FRADs are very useful when dealing with unroutable protocols like SNA because if you use a router, these protocols must be encapsulated in another routable protocol like TCP/IP which significantly increases the size of the packet.

Recently, several vendors have come to market with 'voice over frame' units which allow you to use your data network to also carry voice traffic. A company with an under-used Frame Relay network can save a lot of money if the spare bandwidth is used to send packets of voice data. The savings can be huge for companies with international networks and lots of overseas telephone lines. Because voice traffic is time sensitive (ie. we can't have large gaps in the middle of a sentence) a voice over frame unit must have a fairly large buffer and fast processor to avoid delays or *latency* in the transmission. Look for more of these type of products to hit the market soon.

On a different note, people sometimes see ISPs advertising a 'T1 connection to the Internet' and wonder what it means. A T1 line is 24 lines combined into one physical phone line capable of

transmitting data at 1.544 Million bits per second (Mbps). The T1 connection to the Internet means that your ISP gets his Internet feed at 1.544 Mbps. Your ISP may also be bringing in user's calls via a T1 line rather than having several individual phone lines.

By the way, a T2 line is 96 lines combined into one physical phone line capable of transmitting data at 6.312 Mbps.

A T3 line is 672 lines combined into one physical phone line capable of transmitting data at 44.736 Mbps. T1 lines are quite inexpensive and common in the United States. In BC it costs more to get a T1 line than it does to get 24 ordinary phone lines so there is not much incentive to do so.

Note: Colin MacGillivray of C.T.&S. emailed me that the GTD5 switches I

wrote about last week will support ISDN in 1997 and the existing switches in place throughout BC will be upgradable. This is good news because it may allow BC Tel to roll out ISDN more quickly around the province. □

About the author: *Sean Elrington is Marketing Manager of ZED Data Systems, he can be reached by seane@zed.ca or voice (604) 473-9331.*

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# Kids playing in traffic on the Information Superhighway?

— *Let Net Nanny keep an eye on them*

By Alan Zisman

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The child's eyes were wide open, with a combination of horror and excitement, watching the glowing screen.... you may have seen that cover of Time Magazine, early in the summer, a part of the media bouncing back from its uncritical exaggerated hype of the Internet, with an equally one-dimensional attack on so-called cyberporn.

Time, for example, based its June 26th cover story on what it described as "an exhaustive" study on the pervasiveness of online pornography, by Martin Rimm, originally published in the Georgetown Law Review. Among other claims, Time quoted that in "Usenet groups where digitized images are stored, 83.5 percent of the pictures are pornographic."

Response to the cover story was immediate, and critical of its methodology and results. Take the statistic about Usenet groups, for example. Usenet groups, on the Internet, are online public discussion groups... covering over 4,000 different topics from highly technical, to pop culture, to business, to (yes), sexuality.

Rimm checked 17 of the 4,000 groups over a seven day period— 17 groups that all had a sexual focus, and not surprisingly, found the majority of content in those groups was sexually oriented.... and even here, while Usenet groups can include graphics, they are sent in as encoded text, and can't even be viewed without tedious decoding and special software— not typically among the computer skills of even the precocious subteen pictured on Time's cover. Buried in the fine print of both Rimm's study and the Time article was another statistic, suggesting that only 0.5% of Internet traffic could be considered pornographic.

The harm, however, has been done— the public impression of the Internet as a den of pornographers will be hard to shake. (Readers with Internet access interested in a detailed critique of Rimm's study and the Time article can check <http://www2000.ogsm.vanderbilt.edu/>)

And like many paranoid fantasies, there is a core of reality— if you look



for cyberporn on the Internet, you're going to find it. Playboy's World Wide Web site is among the most popular single destinations on the Web. Or go to a general interest site like 'Downtown Anywhere', which aims to be sort of like an online mall. You'll find a wide range of businesses located there, such as the Icelandic National Tourist Agency. But check the list of the ten most visited locations there—the week I checked, seven of the ten were sexually oriented.

It's not surprising. Sex has sold other new technologies—the first generation of video rental stores, for example, were almost all specialists in x-rated movies. And even with the broadening of the Internet's user-population, a large percentage remains University undergraduates (predominantly male), with free access through their academic institution.

Parents, businesses, and schools have a legitimate desire to limit access to sex on the Net. And so there has been increasing interest in a technological fix to the problem created by the uncontrolled technology of the Net. One of the most well thought-out has been created by Vancouver's Net Nanny, Ltd. (formerly Trove Investment Corporation). They have produced the \$49.95 Net Nanny, which gives parents (or teach-

ers or even employers) the power to limit access to any content deemed inappropriate. When this software is installed onto a computer (currently DOS or Windows only), it continually monitors the computer for content that has been added to its dictionary—this could be sexual or drug or even racial or violence-oriented. If, for example, the word "bomb" had been listed in the administrative dictionary, any documents accessed, or any requests for access that include this word will be recorded. At that point, the computer can be set to simply record the access, to lock the keyboard, or even to shut down. If desired, the shut down computer cannot be rebooted without using a password entered by adult controlling the Net Nanny installation. This can be very powerful—and can do more than simply prevent a child from accessing certain sites.

Many parents, for example, are uneasy about their children giving out their phone number or address while on-line. Adding these to Net Nanny's dictionary will make it impossible for your child to share this information with cyberstrangers.

The Net Nanny folks are including sample dictionaries with their software, and are promising to make updated lists available for downloading. This is important, because adults can include the Web addresses or UseNet group names that they want their kids to avoid, simply by adding them to the dictionary... getting a ready-made list from Trove saves hours on the Net looking for the places where you don't want your kids to go.

There are lots of benefits from letting children explore the on-line community—but like any community, physical or virtual, cyberspace has its bad neighborhoods. Net Nanny allows a parent to set some limits, while allowing their child the freedom to wander where they choose within those limits. □

About the author: *Alan Zisman is a teacher and an associate editor of Computer Player, he can be reached at e-mail at [alan\\_zisman@computer-player.com](mailto:alan_zisman@computer-player.com)*

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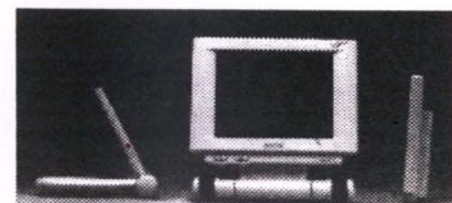
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Sceptre monitors are supported by the new PCI bus and VESA/LB cards and therefore able to operate at peak performance. The VGA card is able to simultaneously support both the LCD monitor and an external CRT monitor with a resolution of 1280 x 1024. Contrast ratio for the TFT is 150:1 and 20:1 for the dual scan. Brightness and contrast are digitally controlled. SRP starts at US\$1,495. The panels are aimed at high end vertical markets.

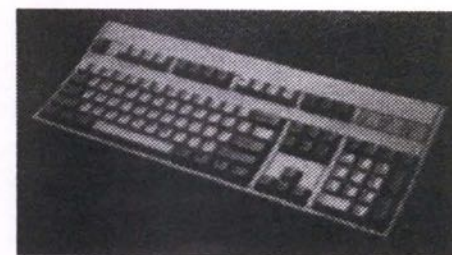
For more information, contact Sceptre at (818) 369-3698 or Lapro Marketing in Canada at (604) 244-7798.



## Sceptre's new monitor line

Sceptre's new WINplay series of monitors met the VESA Display Data Channel (DDC) protocol requirements set forth in MS Windows 95. The plug and play WINplay series has 14, 15, 17 and 21 inch DDC1 and DDC2B displays. They have VLMF and MPRII standards, on-screen display with digital controls. The 15" features 1024 x 768, 72Hz refresh rate and .28 dot pitch.

For more information, contact Sceptre at (818) 369-3698 or (905) 477-6363 and (604) 244-7798 in Canada.



## Fujitsu releases Windows 95 keyboard

The Fujitsu FKB8725 is an 104-key membrane keyboard with 3 new keys for the Windows 95 OS. The new keys are located adjacent to the left and right of the spacebar. An application key, identified by a menu icon, functions like the right mouse button in apps that make use of it. A left and right Windows key, which have a Windows logo icon on them, activate the Windows 95 Task Manager user interface.



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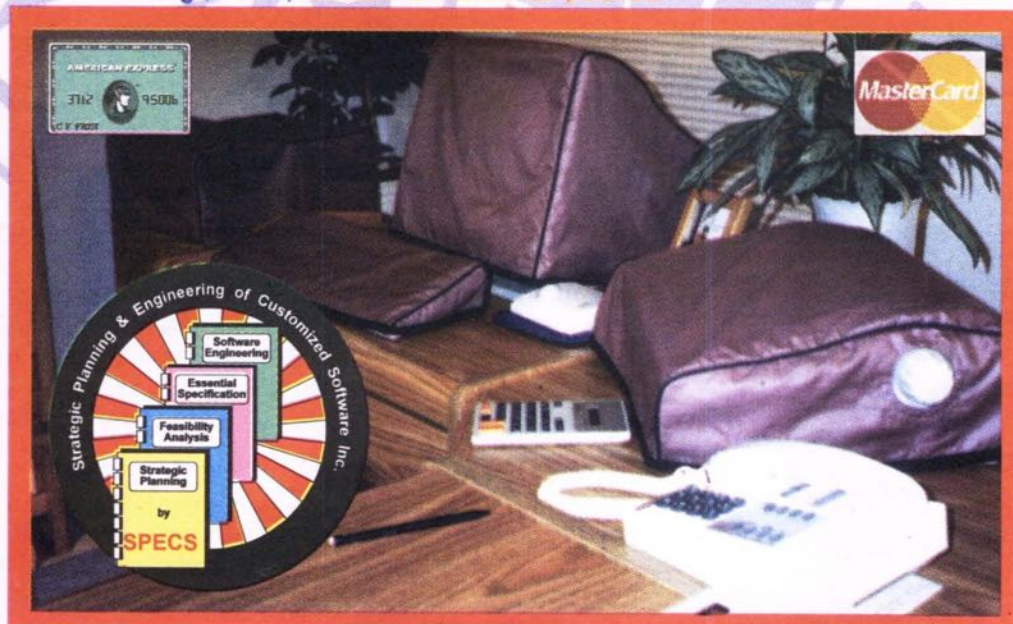
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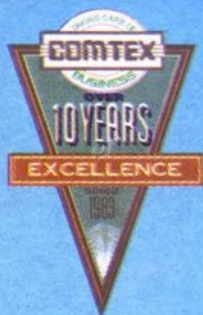
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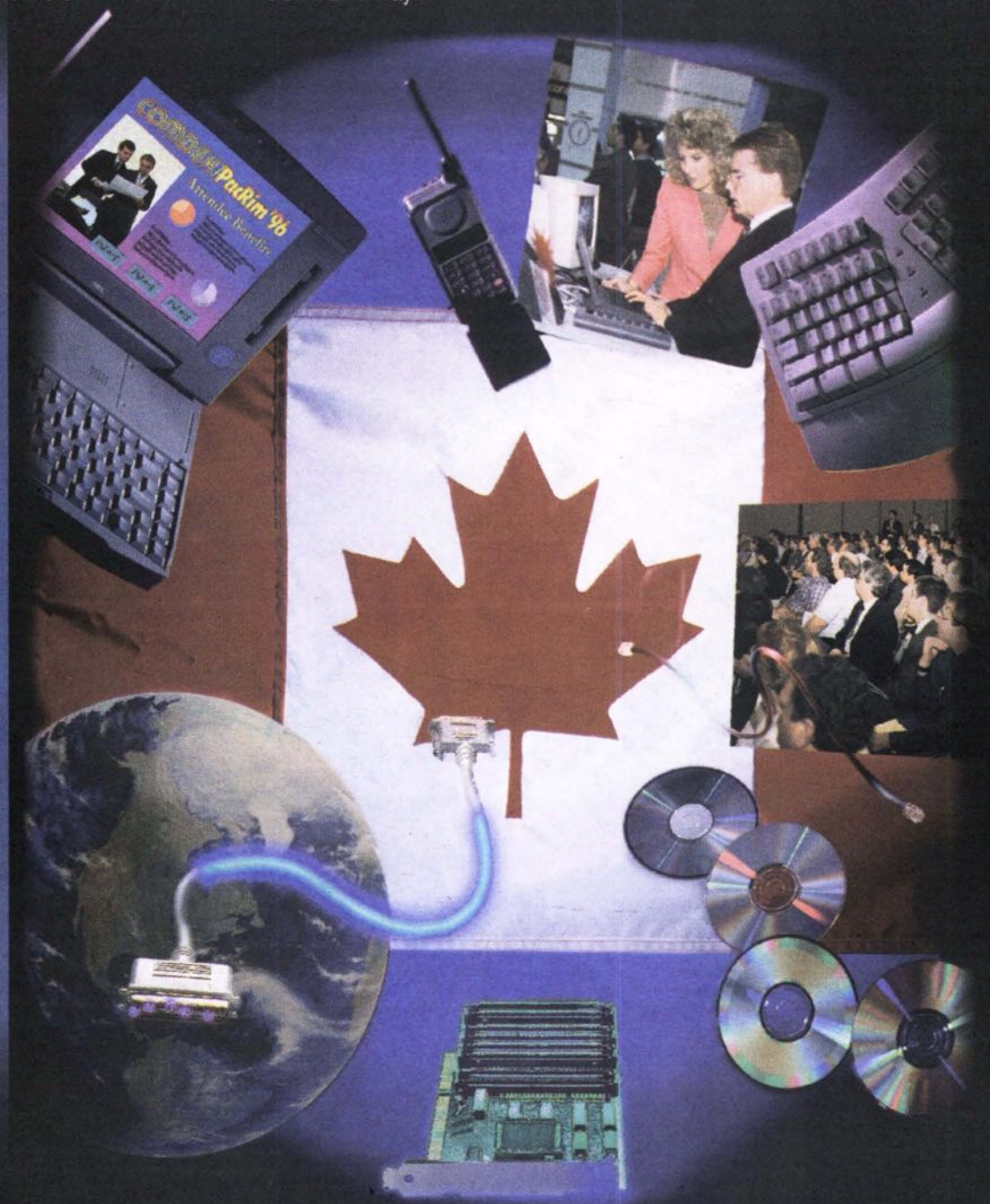
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## Next year on the Internet

By Ken Charko and Cory Novak

The first question everyone who knows me asks me these days, is how many people are on the Internet and how fast is it growing. The only semi-accurate measurement used to determine the size of the Internet is the number of "host" or computer connected to the Internet. Although this is not a measurement of the number of people who use the Internet, it does give a good representation of the number and growth of Internet users.

A computer connected to the Internet is referred to as an "host." This system of organization was apparent in the early 1980s but as the number grew. It became apparent that with thousands of hosts, the net would need some sort of distributed name database. Allowing any user anywhere on the net to locate any other computer even one added quite recently. Thus was born the Domain Name System, or DNS. To this day, the DNS is the part of the Internet that allows users to refer to hosts by names such as [www.digital-rain.com](http://www.digital-rain.com) instead of referring to IP addresses such as 205.206.107.2...

The growth of the host site has been dramatic over the last 10 years from 600,000 in 1981 to over 6,000,000 in the early part of 1991. The estimates for the start of 1995 were twenty to forty million. The next ten years will see even greater growth. By early 1997 some estimates have the number of Internet users at over 400 million people. Some people believe that just after the turn of the century computers will replace the TV in the home.

There are many types of Internet users, government, military, commercial and educational. By far the largest groups in the early days of Internet usage were military and educational. As of Jan 1995 the "top level domains" were .com commercial representing 34% of domain names and .edu education having 29% of domain names. By January 1997 the percentage of domains held by commercial will grow to over 50%. This is a good reflection of the new direction that the Internet has been taking and will be taking in the years to come. The focus of the growth in the Internet over the next few years will be almost exclusively commercial.

The good news for all Canadians is that Canada is well represented on the Internet. Canada is behind only America on a per capita basis for Internet usage. Canada is the fourth largest holder of host names. Ahead of Japan that ranks fifth among countries. Only the United States, United Kingdom and Germany have more hosts. Canada is having relatively good growth at 48% per year. Where the United States only has 38% growth. Japan, which was slow to join the Internet, has 69% growth. And even that is slow growth compared to the Ukraine that has 900% growth and Argentina had over 8,000% last year and is expected to have over 2,000% this year.

The information superhighway, (an over used term) is going to revolutionize the way we do everything. From business relationships to entertainment, everything is going to change. As the computer changed everything in the early 80's so shall the Internet. There are many factors that will determine the rate and quantity of

change. The speed at which one can transmit data over telecommunications networks, as well as the cost to the consumer. As the market matures you will see a dramatic decrease in costs. The trend is away from high monthly charges to lower

yearly charges. Over the next year, companies will be looking for ways to keep your subscription. They will be doing this through low cost yearly memberships. Another shift will be in the service they will provide. It will be more reflective of the general public.

Next year will see the onset of large companies into the Internet. This last month we saw Rogers Cable and Bell Canada. Over the course of next year every communications company will be joining the race. This will be at the expense of the smaller Internet provider.

The Internet is just starting its growth cycle and will only grow faster in the coming new year. It will be harder if not impossible for smaller Internet providers to set up shop. Next year, every large communications company in the country will be fighting for its share of the cyberworld. Only those companies with both knowledge, capital and patience will succeed in tomorrow's market. □

About the authors: **Ken Charko and Cory Novak** work with Digital Rain Online, a Internet provider, they can be reached at (604) 543-3025.

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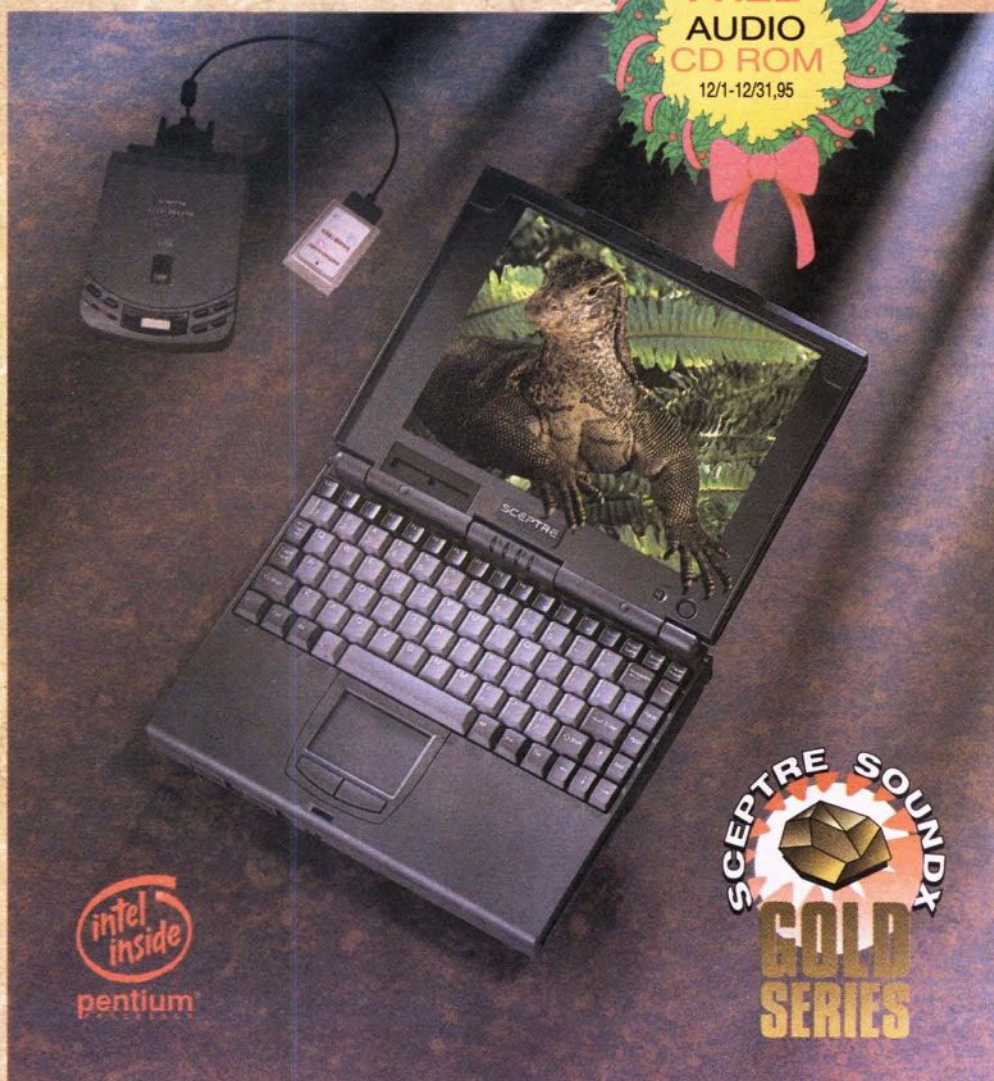


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## The Modem, computerese and Xmas Diaspora blues

By Rick McLaughlin

It's that time of the year again - families getting together, sharing cheer and exchanging gifts. There undoubtedly will be a few choice words quietly muttered as hardware recipients go about the arduous task of setting up their new toys. Hardware set-up instructions come in many flavors. There is the so-called English version, but don't think you'll fully understand them. Best to take a deep breath and slowly try to decipher what they mean. I've always said, if you can understand the instructions, then using a computer will be a breeze.

Not all instructions are hard to understand... but wait! Now there's Plug-N-Play which is commonly referred to as Plug-N-Pray. (Plug it in and pray like hell that it will work). Although Bill Gates and his team of "Insanity Builders" have made an half-assed attempt to provide us with software that recognizes hardware, it is by no means fool-proof. This is a two-way street. First, the software must be able to recognize the hardware part and secondly the part must be able to recognize what the software is telling it. Without the co-operation of both parties, you are going to find yourself setting up drivers and making sure that the config.sys and autoexec.bat have the necessary lines added to them. I guess what I'm trying to say is that it's not the time to fire

your computer consultant or technician. Better to send them a little something for X-Mass and stay on their good side... at least for one more year. I wish I could give you my address. :-}}

As for the war that is raging between the high end 486DX-PCI and the Pentium, it seems the 486DX is still winning the race. From the information I have, the 486DX-120MHz is still popular because it can offer just about as much speed as the Pentium 90MHz at hundreds of dollars less. The only advantage with the Pentium is its ability to run multi-media applications a little faster. I personally don't see much of a difference. If you really want to maximize the performance of these machines, then an accelerator video card with 2MB of DRAM is a must.

Along with all the other stocking stuffers, there will be no shortage of quad-speed CD-ROM drives. Many wonder if it is worth the money to buy a Quad speed as opposed to a dual speed CD-ROM drive. You should be asking - is it better to buy the quad-speed over the six-speed Plexor? They don't even make dual speeds anymore. As for which is best? If you are a CD-ROM game enthusiast then the Plexor is what you want, but if it's primarily function is for installing programs from a CD as opposed to disks, then a quad-speed is enough.

Modems, modems, modems!!! What to buy? There must be hundreds of modems on the shelves and they all boast of being the best.

You'll see things on the package like "With CCITT V.42bis/ MNP 5 Data Compression to increase throughput up to four times" or my favorite, "Data modem compatible with Bell 103/212A and CCITT V.21/V.22bis/V.32/V.32bis/ V.FC/ V.34". What a load of garbage! They are all compliant to these spec's and why do you want to know anyway? It's not like you're going to run out and take a course on communications just so you'll be able to understand what all this means. The words MNP 5 or higher and 28.8 are all you really need to concern yourself with.

Although if you're a doctor and want a modem for hooking into the Medical Services Plan (MSP), then you might want the slowest, most underpowered modem on the market. MSP, a government organization, still has their head stuck up IBM's rear-end because they are using OS/2 as an operating system. About one-half of one percent of users are able to half-understand (and less than that for government employees) OS/2, let alone get it to work. They must know that it's not even close to being a hundred percent compatible with Microsoft's MS-DOS, the industry standard and what most medical offices use. The biggest laugh comes when you discover the application they are using. Called Simpc (it can't run modems properly) and written by what I think is an half-witted 10 year-old who hasn't learned the more complex commands. It blew me away when I learned that you can't use flow control or MNP because their software doesn't support it. In modem communications, the idea is to transmit data as fast as possible using standardized protocols, our BC Government uses non-standard software and sends data at the slowest setting. It goes farther than this but I'll save that for another article. It will be well worth

the laugh to read about what they have done, even if it doesn't teach you anything about new technology. If you're a technician and you want to review old material, this will be right up your alley as it's all backwards. (Kinda like the people we vote for). Lets get back to the real world.

For those of you who have been calling me about the 30 to 72 pin SIMM Converters there is a retail outlet. They are available at the MailBox at 720 - 6th Street in New Westminster.

If you have bought new equipment or even new parts for your computer and can't get them to function properly then call your dealer for help. If they don't offer you support for what you purchased then call a consultant. There are a lot of good ones out there and you'll be happier spending a few more dollars on them rather than driving yourself crazy trying to figure out what has taken us years of learning to do. There is no shame or embarrassment in not knowing new technology and when you make that all important jump to newer things... reserve a few bucks for technical help. You'll be glad you did. Computers can be fun and should be seen as an instrument. Don't let it get the best of you. There are plenty of qualified people to help you, so don't try to go it alone if you're not sure of what you are doing. Make 1996 a good year and most of all - a year to grow and learn.

See you next year, have a Merry Christmas, a Happy New Year and oh yeah... Happy Computing. ☐

*Rick McLaughlin is a leading computer consultant from New Westminster and can be reached at (604) 521-6831 or E-Mail: rickmc@wimsey.com (or) E-Mail: rick\_mclaughlin@mindlink.bc.ca*

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- ☐ 20 - 99
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## 全球資訊網 < 第二部份 >

有人說加拿大是退休者的天堂，一般的年輕人來到這裡可能會覺得發慌，除了戶外活動，經常會閒得沒事做？但對筆者而言，來到加拿大後，不但沒得閒，反而比在臺灣時還忙（雖然我也是來退休的）.....  
我經常透過 Internet 與臺灣的朋友通信，每天的信件量高達三、四十封，而透過自己所架設的 BBS 而通的信件也高達百封，當想

臺灣的動態時，就使用 World Wide Web 連回臺灣看即時新聞（資訊的速度比看臺灣報紙還快），所以也就甚少看世界日報（Sorry 到世界日報）之類的報紙囉！

在 Internet 上可以透過 World Wide Web 來進行一些商業銷售行為，而此電子式銷售市場，也逐漸為大眾所重視！

您來到加拿大覺得不知道做什麼事嗎？不妨在 Internet 上開一間店吧！在 Internet 上開店不但成本低，且營業額也可能會高得讓您無法想像呢！

在您的店之前，不妨先連上 Internet 來看看別人是如何做生意的吧！

以下就是目前臺灣大部份的社會組織或公司所設立的 World Wide Web 資料。

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民主進步黨	位置: <a href="http://202.39.169.180">http://202.39.169.180</a>
中國國民黨	位置: <a href="http://kmt.org.tw">http://kmt.org.tw</a>
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新國會聯合研究室	位置: <a href="http://www.seed.net.tw/~newcong">http://www.seed.net.tw/~newcong</a>
台灣勞工陣線	位置: <a href="http://www.seed.net.tw/~labornet">http://www.seed.net.tw/~labornet</a>
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中華民國電腦輔助教學學會	位置: <a href="http://doc.yzit.edu.tw/acbe/acbehome">http://doc.yzit.edu.tw/acbe/acbehome</a>
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當然，臺灣的 Web Site 並不只如此，而且還成倍數迅速增加中，如有機會筆者會在以後的 Computer Player 上報導給各位的.....

筆者的 E-Mail 是 jim1@iceonline.com，歡迎各位來信指教（儘量寫中文吧）！

作者：林啓清先生目前職務：中華民國電腦通訊業網路協會 常務理事；中華民國電腦通訊業網路協會 活動委員會 主任委員；中華民國網路協會 BBS 委員會 主任委員；第三波雜誌 編輯顧問；光碟雜誌 編輯顧問；加拿大電腦世界雜誌 (Computer Player) 專欄作家。相關著作：BBS 電腦通訊入門與架設實務 (立成出版社)；BBS 電腦通訊站技術秘笈 (第三波)；Maximus BBS 架設實務 (資訊與電腦)；BBS 電腦通訊站使用入門 (倚天)；小朋友學 BBS (長諾)；數據通訊教材系列 -- BBS & Internet 入門篇 (松崗)；資訊高速路導覽 -- Internet Yellow Book (松崗)。

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### 95 超級萊思康

在電腦光碟產品(CD Title)中，萊思康英漢電腦字典是相當出名的，正如同它在台灣筆記型英漢電子翻譯機裡的地位一般。

最近由台灣 sumit 新推出的 < 95 超級萊思康多功能光碟字典 >，其特色之多，也是同類產品字典產品中所獨具的。

《四合一字典功能》：除了一般字典所附有的英漢、漢英單字查詢以外，95 超級萊思康另外還附有英英、國語(中文)字典，在單片光碟裡，繙藏了語言學習最豐富的内容，堪稱是光碟字典的最佳產品。

《同義、反義和其他》：英語學習要能舉一反三，萊思康字典還附有多項很有用的工具，就是英語同義字和反義字的查詢，以及中文諺語查詢，就此來看，萊思康不只要充當英語學習的典範，他還要為中文語言

學習開出一個新的序幕呢。

除了上述特色，這片光碟片還有字典語詞擴充功能(加新字到字典裡)、動態查詢、英語單詞實力測驗等單元，查詢、學習、練習，既是字典，也是教室。

《生活應用單元》：所有我們在手型電子翻譯機上看到的功能，在此都有了，<單位換算>、<世界時刻>、<電話簿>、<急救常識>、<萬年曆>、<占算：周公解夢、文王神卦、占星算命等>，琳琅滿目，這片光碟片收藏之豐，也可算是今年的字典光碟之最了。

### 英語學習系列光碟 托福(TOEFL)英文試題集

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答題狀態表，測驗完畢電腦將自動核對正確答案，並換算、統計及記錄成績。另一特色是，依難易等級收集了近年托福測驗中最常考之字彙 15000 字，及例句約七千字供快速瀏覽學習，部份還有發音、錄音的功能。

空中英語教室、大家說英語、傑姆叔叔說英語、長春藤新聞英語  
英語學習產品近年來在台灣光碟產品中佔有很大的比例，<空中英語教室>、<大家說英語>是其中最著名的兩項產品，由於該兩公司在台

灣不僅有廣播節目，及雜誌媒體的出版，多年來在台灣學習英語人士中有不少支持者，當他們利用電腦新科技作為新的傳媒，於近年陸續推出新產品時，所受到的反應也是很熱烈的，<空中英語教室>已出到第六集，<大家說英語>則已出了兩集，在多媒體表現上都很出色。

新推出的 <傑姆叔叔說英語>、<長春藤新聞英語>等在英語會話，閱讀方面都有新的優點，提供用者更多選擇。

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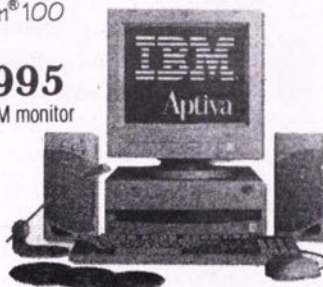
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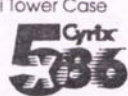
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## Last Chance to Reduce 1995 Income Taxes

By Richard K. Acton

**I**t's December and 1995 is drawing to a close. If you wish to reduce your 1995 taxes you must take the appropriate actions before December 31st. Although I believe that tax planning should take place early in the year, a final review before year-end often results in additional savings.

### Self-Employed

I have written at length in prior columns about the new rules for professionals and unincorporated businesses. Normally, business owners are trying to do what they can prior to year-end to defer their revenue and accelerate expenditures to minimize taxes. Those affected by the new rules and moving to a December year-end and need to be making their pre year-end decisions now.

For many this year there will be a twist. That will be to increase revenues and reduce expenditures in order to average their stub period income over the next ten years. Initially your response may be why would I want to increase this year's taxes? We must be cognisant of the fact that any increase to income in the stub period from the business's former year-end to December 31st will qualify for the reserve and the income will be brought in over the next ten years. Consequently, you may pay slightly more tax in the current year but less in 1996 and bringing that income in spreading and over ten years allows for deferral of tax.

Revenue Canada is undoubtedly aware that those affected will be trying to do this. It is likely they will be looking for deferrals created by artificial transactions. Hence you should be trying to enter into bonafide transactions before December 31st that will withstand scrutiny. This may include such steps as billing out work in process prior to December 31st or deferring expenditures that you might have normally made in December. To be sure you are on-side, you should sit down and review these possibilities with your Chartered Accountant before the end of December.

### Province of Residence on December 31st

Your province of residence at December 31st is the one in which you will be taxed for the entire year's income. If you are in the process of a move to a lower tax province, (for example, Alberta) and that move is going to take place in January, you may wish to see what you can do to officially take up residence for tax purposes there by December 31st.

### Donations

Last month's column was about donations and this is a reminder that to be deductible in 1995, the donations must be made on or before December 31st and the receipt should so indicate.

### Forward Averaging

The ability to forward average has been gone for some years. However, there are taxpayers who have forward averaged with amounts still sitting in their forward averaging accounts. With 1997, the ability to bring in the forward averaged amount at a

lower tax rate will be gone. Consequently, forward averaging must be completed in 1995 or 1996. If you are not in the top tax bracket for 1995, look at your forward averaging account and bring in sufficient amounts to take advantage of the lower tax bracket. Also look at what you can do to structure your affairs in 1996 to use up the remainder of this account.

### Capital Losses

For the majority of investors capital losses have not been an issue for several years as the goal for most people was to use up their capital gains exemption. However, this year capital gains are fully taxable. If you have capital gains you should be reviewing your portfolio for any stocks you may wish to unload and take the loss, thus reducing your taxable gain for the year. To effect these capital losses, the transaction must take place on or before December 22nd as that will be the last transaction date for 1995.

If you did actually pay capital gains tax in a prior year, you may wish to claim a loss carryback which can be claimed for up to three years. However, before doing this you should consult with your Chartered Accountant to ensure you aren't eating into a prior capital gains exemption.

Be conscious of the identical property rules. If you, your spouse, or a corporation you control purchases an identical property within 30 days, the loss will be disallowed for tax purposes.

### RRSP's

In 1995, the contribution limit will be the lesser of \$14,500 or the amount arrived at according to the formula applied to 1995 earned income.

The over contribution limit has dropped from \$8,000 to \$2,000. If you are

in excess of that based on contributions made prior to the February budget date you will not be penalized. However, any contributions after that date which bring you in excess of the \$2,000 over contribution limit will create a problem.

If you turned age 71 during 1995, you must convert your RRSP to an annuity and/or a RRIF by December 31st. If you do not deal with this by December 31st the contents of your RRSP taxed in your hands in 1995.

### Tax Shelters

My first word on tax shelters is always CAUTION. Review the shelter for actual investment value and consider any tax savings to be a bonus. Tax shelters exist because the government is attempting to make a high risk investment more attractive in pursuit of some government economic or social policy.

If you invest in something that is going to provide a tax saving of fifty cents for every dollar invested, remember that if you never see any of your money again, you would have been better off to have foregone the tax saving and retain the half that was available to you after tax.

In assessing a tax shelter you should also look at your total tax position to see what the effect of the Alternative Minimum Tax will be. You can over-shelter yourself and wind up paying AMT. If you are looking at shelters consult your Chartered Accountant.

I would like to wish you a Merry Christmas and a happy and prosperous 1996. □

About the author: **Richard K. Acton, F.C.A.** is with Acton Gunderson chartered Accountants. He can be reached at (604) 734-4871 or fax (604) 734-9211.

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## Barter Cascadia

By John Madsen

**L**ast Spring the Portland-based ITEX Corporation completed an agreement with British Columbia's ITEX/Bartercard to integrate the Canadian company into the larger ITEX Corp system within one year. In spite of the similarity of names, ITEX Corp (U.S.A.) and ITEX/Bartercard (Canada) never had a business relationship.

ITEX Corp is North America's largest and fastest growing retail barter network. Established 14 years ago, ITEX Corp now has over 130 offices in the United States and affiliated operations in Quebec, South Africa, Australia and Switzerland. It has invested millions over the past few

years developing a global trading system based on the Internet. ITEX Corp is publicly traded on the Nasdaq stock market under the symbol "ITEX".

Founded in 1980, ITEX/Bartercard is Canada's oldest trade exchange. Company founder and President, **John Madsen**, realized it could cost hundreds of thousands of dollars to update ITEX/Bartercard's accounting and trading software to the same technological sophistication of ITEX Corp. Yet while ITEX Corp amortizes its development costs over more than 30,000 members, Madsen's much smaller operation would have to amortize costs over a membership of less than 500. ITEX/Bartercard owners John and Fran

Madsen felt the time had arrived to accept ITEX Corp's offer!

In addition to achieving economies of scale, the integration provides ITEX/Bartercard members with access to global electronic trading and a vastly expanded market. After much consideration, ITEX VP Marketing & Sales **Michael Neal**, recommended Vancouver and Victoria link up with the very successful Seattle ITEX office ... creating the first barter operation to truly service what is commonly termed *Cascadia*.

Heading up the *Cascadia* region is Seattle's **Brian Argetsinger**. He is committed to building as strong and vibrant an office in Vancouver as he built in Se-

(Continued on page 65)



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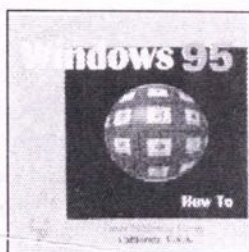
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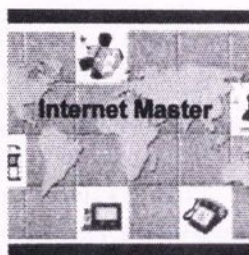
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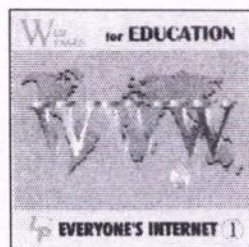
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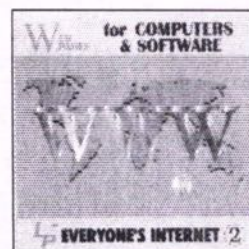
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(Continued from page 64)

attle. Since opening in 1991, the Seattle office has grown to 375 members with gross monthly trades of Cdn\$580,000. The Seattle office has received over 15 recognition awards from ITEX Corp ... including #2 out of 130 offices in total trading volume in the past two years, the 1995 ITEX Circle of Excellence and the 1994 President's Club. In addition, Argetsinger is currently serving as the Northwest U.S. Regional Representative to the ITEX Brokers Board of Directors.

By March 1st, Argetsinger plans to open an office to service the Greater Vancouver area. Seasoned staff from the ITEX Seattle office will start familiarizing the new Canadian management team on marketing and trading procedures immediately. An information package detailing benefits gained from participation in the ITEX global trading system is currently being mailed to all ITEX/Bartercard members. A new **Client Directory**, incorporating the whole *Cascadia* area (Vancouver, Victoria and Seattle), will be ready for March 1st.

Client mixers are planned in the Vancouver area early in the new year so ITEX/Bartercard members can meet with the people from the Seattle ITEX office. A **Welcome kit and Trade Organizer**, with all the reference material needed to become a successful ITEX trader, will be sent to all ITEX/Bartercard members in January. Orientation sessions on these materials are scheduled for January and February.

Argetsinger firmly believes trading is a "high tech, high touch" business requiring personal attention to the trader's needs. This is how Seattle became #2 of the 130 ITEX

offices in trade volume within 4 years. Each ITEX trader is assigned a **Personal Trade Director** who is in touch at least once a month to ensure the trader is finding ways to effectively use their trade dollars.

ITEX/Bartercard owners, John and Fran Madsen, feel integration of their company into the much larger ITEX global trading network represents a "win-win" development for everyone concerned. Over the past 16 years, ITEX/Bartercard gained a reputation as one of the best organized and innovative trade exchanges in North America. Its President and CEO, *John Madsen*, is a frequently published author on barter in periodicals and journals in both the U.S. and Canada.

Few exchanges have the solid trading background of the ITEX/Bartercard membership (many hailing back to 1980). In fact, the oldest of its competitors only arrived on the local scene less than two years ago. Combining the seasoned membership of ITEX/Bartercard with the very successful ITEX Seattle office creates the largest and most technologically advanced trade exchange in the six million *Cascadia* market. With its connections to Japan, China and India and the emerging economic Tigers (Singapore, Thailand, Malaysia, Korea, Indonesia and Viet Nam), many consider the *Cascadia* region as the most promising in North America. □

About the author: *John Madsen*, a Chartered Accountant by profession, is President of ITEX/Bartercard and may be reached at 604 521-7911 fax 604 521-7944 or by E-mail at [john\\_madsen@mindlink.bc.ca](mailto:john_madsen@mindlink.bc.ca).

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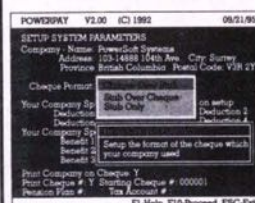
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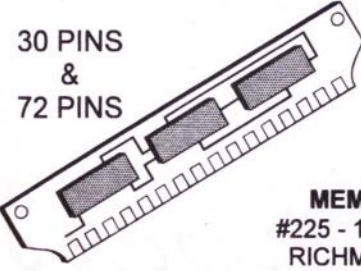
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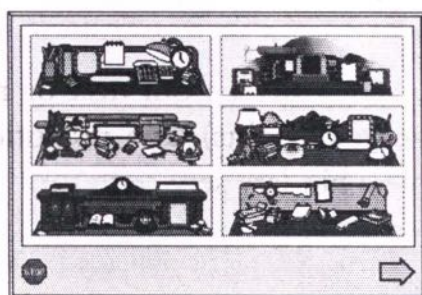
By David Anderson

Here is a terrific piece of software for Windows computers in the home. It takes an ordinary 386 and turns it into the ultimate family machine, complete with central communications network, with e-mail and voice mail built-in. It is a simple and effective replacement for Windows's Program Manager, with perfectly seamless, one-click launching of windows or DOS programs, with no fussing over .pif files or boot disks. I am describing the program called Kiddesk, The Family Edition for Windows, by Edmark Corporation, the people who produce Thinking Things, among other children's educational programs.

Kiddesk creates individual "desks" for the users of a particular machine. Each desk can be customized by the user, and provides one-click access to the programs enabled for that particular

user. A supervising adult has a special key combination and password that permits her or him to regulate the programs available to each user. Each user has a password, required to gain access to a desk. Desks also have a variety of appearances, selected by the user, and the user also chooses an identifying icon for the main desk. The main desk contains all the icons for all the users of that machine. While this system of individual desks is really designed for a family, I observe Kiddesk in daily operation at my children's afterschool daycare, where there are up to 50 users of the centre's trusty multi-media 486. Each child and staff member has a desk, a password,

and access to the games and programs available in each desk. Staff members use their desks to access the word processor, or financial spreadsheets. These programs are easily disabled on the children's desks.



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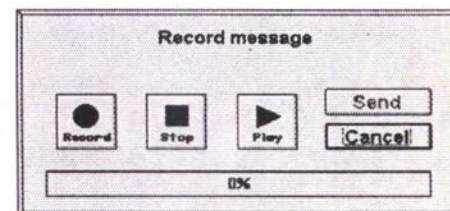
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There are two exceptional features in Kiddesk. One is the rock-solid simplicity of this program as a Windows shell. Not only are the program icons conveniently one-touch, but Kiddesk moves effortlessly through DOS or Windows programs with virtually no discernible difference. When a program is set up for a desk, a simple check box is provided to indicate if the program is to load as a DOS program. As an often-frustrated Windows tinkerer, I have enormous respect for the programmers of Kiddesk. They have hidden from view all the struggling over sound cards and resources that can occur under Windows 3.1.

The other fascinating aspect of Kiddesk is the community of communicators it creates, with e-mail and voice mail interfaces simple enough for children to operate. Each desk comes equipped with a variety of communications tools. There is a mini sign-maker, with fonts size selection and fancy borders. There is an e-mail mailbox for sending and receiving messages, with a very friendly word processor. There is also a feature permitting distributed mail, using the File Manager trick of clicking on the first name, pressing SHIFT, and clicking on the last name. Junk mail at a keystroke!

When a desk is entered, the mailbox indicates the presence of messages waiting for reading, printing, or deleting. Each desk also contains a telephone and an answering machine. If there are incoming voice messages waiting, the light on the answering machine is blinking. Voice messages are made with a microphone plugged into the sound card. My favorite is a distributed voice message whenever I clean the cat box, making sure everyone knows I did my bit. My daughter sends me mysterious songs and chants, and I send her Count Dracula imitations. My son collects all his messages, and refuses to delete any of them. Just like a real live electronic bulletin board, mail is placed on a hard drive, and is available to the user at sign-in. And just like a bbs, you store your mail for later reference. It is simple, it is elegant, and it works! Hats off to these people at Edmark.



Some technical notes. Kiddesk can be loaded as an icon in a Program Manager group. It will also load itself on to the Run= line in Win.ini, if asked to do so. Or it will write itself in on the Shell= line in System.ini, and become the actual startup shell. Each has its advantages. If direct access to Windows without Kiddesk running is desirable, then the first two options are best. In the second case, Program Manager is loaded first, then Kiddesk loads. To get back to Windows, just quit Kiddesk. The downside to this is the upside to the third option. When returning to Windows after a DOS program, you have to wait for Program Manager to reload, then the desk reappears. If Kiddesk replaces Program Manager, then movement between DOS and Windows is quick and smooth, with no waiting. The price paid here is the fact that if you want to use Windows utilities like Control Panel or File Manager, you have Kiddesk running in the background, which can cause some unexpected delays. However, with Kiddesk as the shell, you can put the Control Panel or File Manager

icon right on your desk, so that you can go directly to those programs with one click. In some ways, a better Windows than Windows!

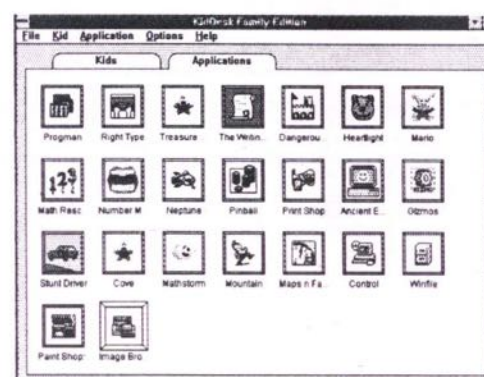
I am currently using the 3.x version of Kiddesk on the family 386 SX 25, with only 4 mb of RAM. It runs very well, with no

complaints. I have not seen the 32-bit Windows 95 version in the flesh, but I can certainly applaud the craftsmanship that went into the 3.x version. The setup is dead easy, and simple to modify over time. As a shell, Kiddesk takes very little resources, giving your computer all of its energy to run the programs on the desks. For a family machine of any proportion, this is a must-have, and less than 50 dollars. Santa, are you listening? □

About the author: **David Anderson** is Vancouver elementary teacher, parent of two children. He can be reached by email: [computer\\_player@mindlink.bc.ca](mailto:computer_player@mindlink.bc.ca)

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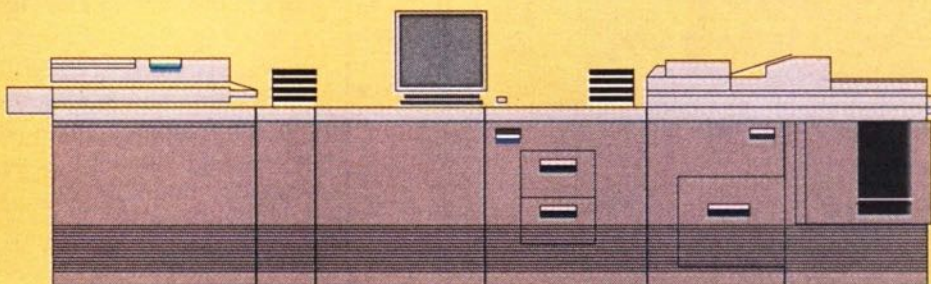
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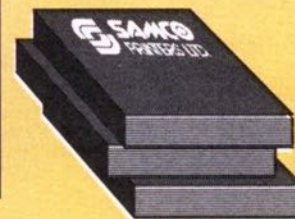
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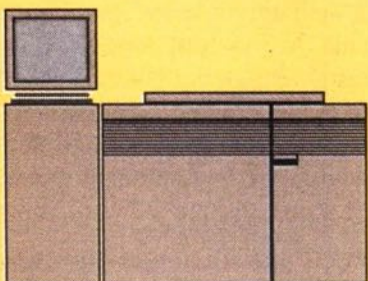


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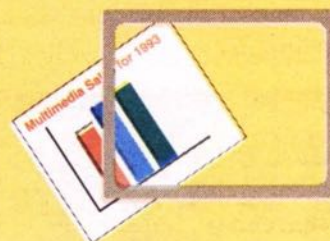
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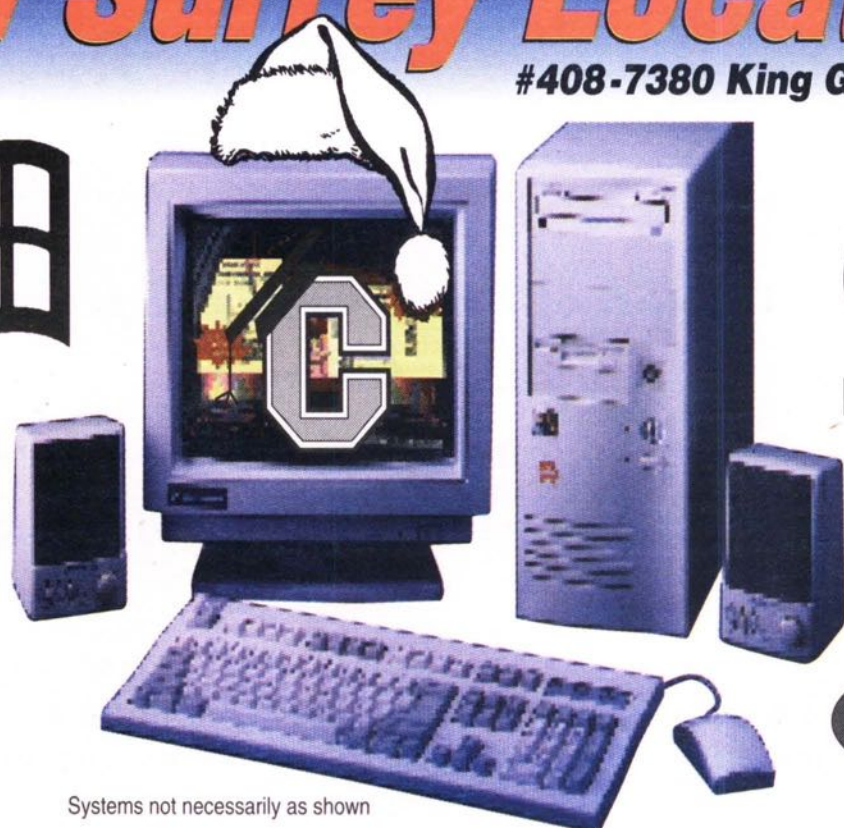
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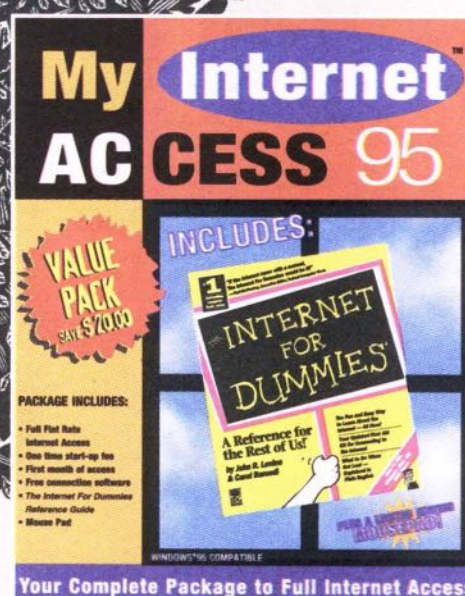
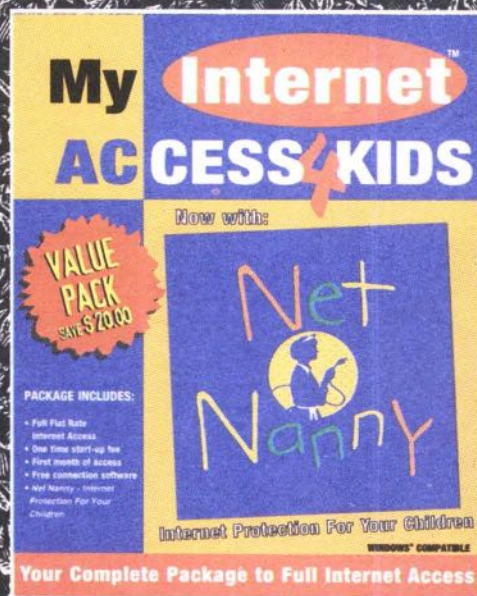
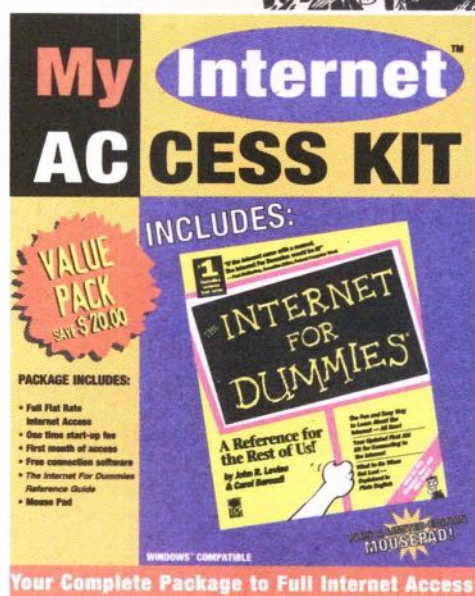
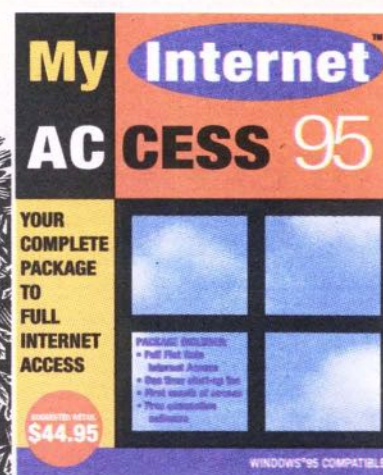
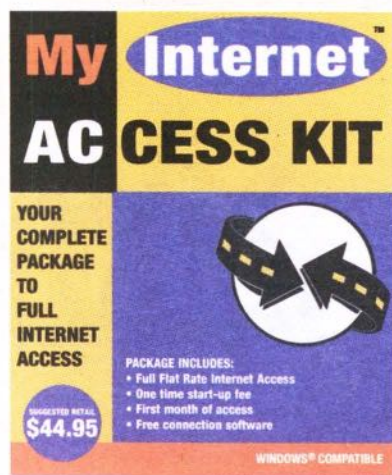
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